



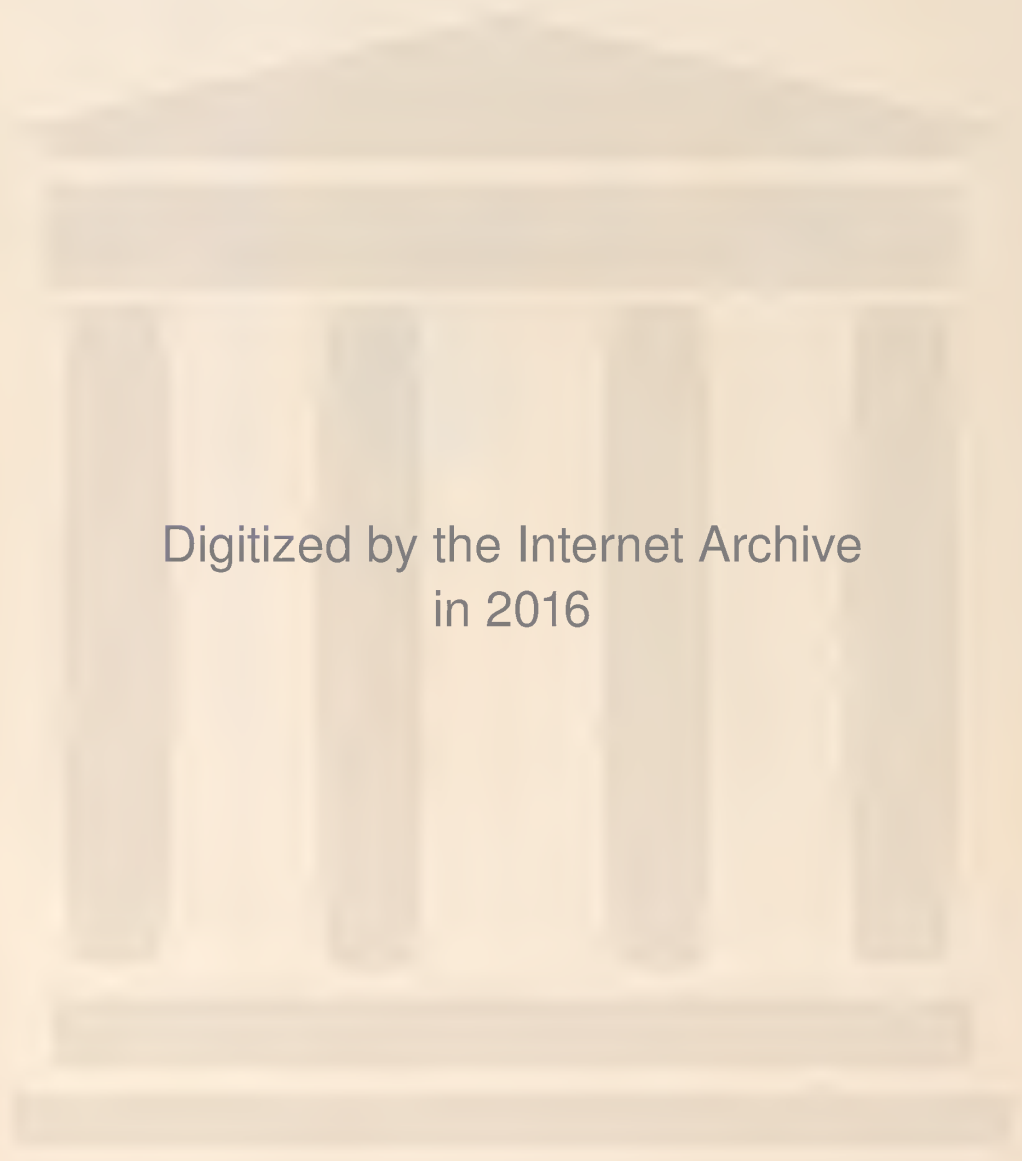
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# JOURNAL

of the Oklahoma State Medical Association

Volume 60

Number 1

January 1967



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JANUARY  
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## of the Oklahoma State Medical Association

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Corcoran, A. C.: The choice of drugs in the treatment of hypertension. In: *Drugs of Choice* 1966-67, W. Modell, Ed., St. Louis, C. V. Mosby Company, 1966, p. 417.

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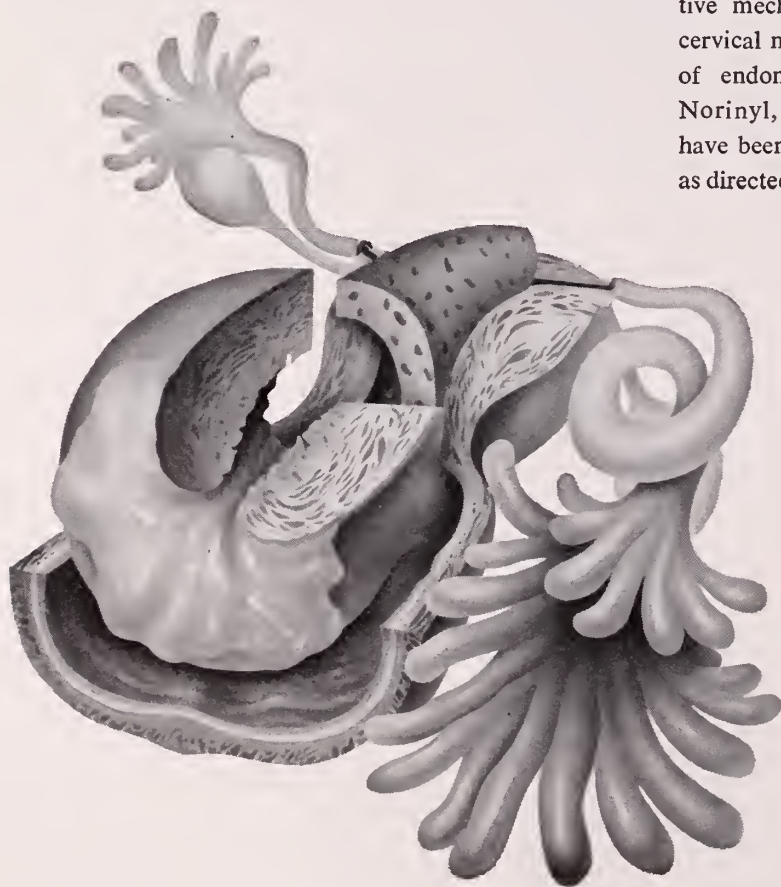
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ketosteroids and decrease in 17-hydroxycorticoid levels. Thus, Norinyl should be discontinued prior to and during thyroid, liver or adrenal function tests. Because progestational agents may cause fluid retention, conditions such as epilepsy, migraine and asthma require careful observation. Thus far no deleterious effect on pituitary, ovarian or adrenal function has been noted; however, long-range possible effect on these and other organs must await more prolonged observation. Norinyl should be used with caution in patients with bone, renal or any disease involving calcium or phosphorus metabolism. **Side Effects:** Intermenstrual bleeding; amenorrhea; symptoms resembling early pregnancy, such as nausea, breast engorgement or enlargement, chloasma and minor degree of fluid retention (if these should occur and patient has not strictly adhered to medication plan, she should be tested for pregnancy); weight gain; subjective complaints such as headache, dizziness, nervousness, irritability; in a few patients libido was increased. In a total of 3,090 patients, 2.2% discontinued medication because of nausea.

**NOTE:** See sections on contraindications and precautions for possible side effects on other organ systems.

**Dosage and Administration:** One Norinyl tablet orally for 20 days, commencing on day 5 through and including day 24 of the menstrual cycle. (Day 1 is the first day of menstrual bleeding.)

**Availability:** Dispensers of 20 and 60 tablets; bottles of 100.

**References:** 1. Council on Drugs. JAMA 187:664 (Feb 29) 1964. 2. Brvans, F. E.: Canad Med Ass J 92:287 (Feb. 6) 1965. 3. Goldzieher, J. W.: Med Clin N Amer 48:529 (Mar.) 1964. 4. Cohen, M. R.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965. 5. Hammond, D. O.: Ibid. 6. Rice-Wray, E., Goldzieher, J. W., and Aranda-Rosell, A.: Fertil Steril 14:402 (Jul.-Aug.) 1963. 7. Goldzieher, J. W., Moses, L. E., and Ellis, L. T.: JAMA 180:359 (May 5) 1962. 8. Kempers, R. D.: GP 29:88 (Jan.) 1964. 9. Tyler, E. T.: JAMA 187:562 (Feb. 22) 1964. 10. Rudel, H. W., Martinez-Manautou, J., and Maqueo-Topete, M.: Fertil Steril 16:158 (Mar.-Apr.) 1965. 11. Flowers, C. E., Jr.: N Carolina Med J 25:139 (Apr.) 1964. 12. Goldzieher, J. W.: Appl Ther 6:503 (June) 1964. 13. The Control of Fertility. Report adopted by the Committee on Human Reproduction of the American Medical Association. JAMA 194:462 (Oct. 25) 1965. 14. Flowers, C. E., Jr.: JAMA 188:1115 (June 29) 1964. 15. Merritt, R. I.: Appl Ther 6:427 (May) 1964. 16. Newland, D. O.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965.

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this issue: the nose as a shock organ

# the nose as a shock organ

by Charles J. Shagoury, M.D., Chelmsford, Massachusetts

"Is it a cold, hay fever, or has he been reprimanded by his boss?" Occasionally, you will ask yourself this question when confronted by a patient with abrupt onset of rhinorrhea, nasal obstruction, and sneezing. Usually the history will elucidate the problem, but examination of the nose will often provide valuable clues to the correct diagnosis.

The nose is a shock organ in a double sense. First, it is in the nose that the confrontation takes place with the surrounding atmosphere. For twenty-four hours a day, the nose must meet the varying challenges of the inspired air, containing perhaps noxious chemicals, dust, dirt, bacteria, viruses, fungi, and industrial pollutants of all kinds, and render it clean, virtually sterile, and fit for the sensitive alveoli of the lungs. Whatever the temperature or humidity of the atmosphere, the nose must transmit it to the lungs at approximately 98°F, and with a humidity of approximately 40%.<sup>1</sup>

Second, in particularly susceptible patients, the nose acts as a shock organ in a manner totally unrelated to its normal function. Persons with hay fever respond to ordinarily harmless materials by extreme nasal congestion, with marked rhinorrhea and violent spasms of sneezing. In some patients, exposure to threatening or disagreeable agents, or situations involving mental conflict may result in a reaction which is exclusively nasal, with swelling of the turbinates, and marked hypersecretion.<sup>2</sup>

**N**asal symptoms usually result when the nose seeks to perform its function of getting rid of noxious and dangerous elements in the atmosphere, and prevent their admission to the trachea and lungs. Small particles are removed by the mucous coating which blankets the nasal passages. This mucous blanket contains a bacteriostatic agent, lysozyme, which destroys most air-borne bacteria.<sup>3</sup> The mucinous content renders the surface sticky, causing dusts and small particles to adhere. It has been postulated that this process is rendered more effective through adsorption because of a surface electrical charge on the nasal mucosa.<sup>4</sup> The cilia then sweep the particu-



late matter to the pharynx. The nose can prevent entrance into the lungs of particles as small as three microns in diameter, but smaller particles elude the nasal barrier. Most bacteria causing respiratory infections are one to three microns in diameter, but since they usually are inhaled in clumps, they are efficiently removed as a rule. Viruses, which are of the order of 1/1000 of this size, are less efficiently dealt with, unless they occur in very large aggregates.<sup>5</sup>

The nose will react in a more or less similar manner, whatever the nature of the offending agent, whether it be an irritant chemical, virus, pollen, or distasteful emotional situation. In acute coryza, the most characteristic sign is a profuse watery discharge. The volume of secretion may rise from practically nothing to nearly 60cc in twenty-four hours.<sup>6</sup> The mucous membrane is reddened and engorged, while the turbinates are markedly swollen. After the first day or two, the secretion becomes thicker, yellowish, and more difficult to expel. The surface cells are largely destroyed, contributing to the copious discharge, which now also contains numerous inflammatory cells which have migrated to the area. Gradually, over a period of a few days, or a week, the flood abates, the swelling and redness subside, and the nasal epithelium resumes a healthy appearance.

Repeated attacks of rhinitis, particularly if there is an underlying element of obstruction, may result in chronic rhinitis. The mucous membrane is constantly swollen and reddened. Sticky, mucopurulent secretions are a continuous feature, and the glandular elements are hypertrophied. Commonly, the mucosal surface takes on an irregular, rounded "mulberry" appearance, and nasal passages are occluded by the swollen turbinates and redundant mucosa.



While all of us are susceptible to colds, the victim of hay fever, or allergic rhinitis, displays a marked nasal reaction to materials in the air which leave his associates unaffected. In such a patient, the nasal mucosa has become an allergic "shock" organ. Contact with the nasal allergen causes local release of histamine, with vasodilatation, increased vascular permeability, and severe nasal congestion, similar to the "wheal" and "flare" reactions in the skin, when the epidermis is the allergic shock organ. While we eagerly await the coming of spring, the hay fever sufferer dreads the blooming season, whose invisible pollens are poisons to his sensitive nose. His neighbor's cat or dog may provoke paroxysms of uncontrollable sneezing. In some cases a specific allergen is not identified, but the triad of rhinorrhea, nasal obstruction, and sneezing is present.<sup>7</sup> The nose in these cases shows a pale, boggy, edematous mucosa, with a thin mucoid secretion. The mucous membrane shows extreme retractility to 1% cocaine or ephedrine. If the patient has medicated himself prior to examination, the nasal passages may appear abnormally patent, or show exaggerated congestion due to rebound reaction. The secretion may show a large number of eosinophils particularly after an attack of sneezing or rhinorrhea. Touching the mucosal surface, especially of the inferior turbinate, leaves an indentation, showing that the swelling is due to stasis and edema, rather than actual hypertrophy of the mucous membrane as in chronic hypertrophic rhinitis. Though the pale swollen mucosa is the hallmark of allergic rhinitis, as usually seen by the physician, exposure of allergic subjects to their known allergens results in a brief hyperemic phase, followed by pallor and edema.<sup>8</sup>

In the later stages of allergic rhinitis, the chronic edema of the mucous membrane results in the formation of polyps, clusters of grape-like masses hanging from the roof of the nose, with a pale glistening surface, contributing significantly to the sense of nasal obstruction and oppression.

A large group of patients show symptoms of nasal congestion when confronted by adverse life situations.<sup>9</sup> In these unfortunate persons, anxiety, frustration, and resentment are often accompanied by a runny nose and nasal obstruction. Lacrimation adds to the nasal stuffiness. This autonomic response, mediated by the parasympathetic nervous system, may be part of a general parasympathetic reaction, or may possibly represent in part, a symbolic effort to wash out and crowd out the offending situation.

Nasal congestion may also occur in some patients at times of sexual stimulation, and in women during menstruation and pregnancy, even to the point of epistaxis.<sup>10</sup> The relationship is obscure; castration results in atrophy of the nasal glands, and their action is inhibited by the hormones of the hypophysis and the thyroid.<sup>11</sup> The nose may be the shock organ in drug therapy. The nose may also bear the brunt of industrial stress, in those who work in a hot dry atmosphere, or those exposed to acid fumes, or irritating dusts. As the air in our cities is increasingly polluted by exhaust fumes, and industrial irritants, whole urban populations may suffer from chronic nasal and respiratory symptoms.

Of course, nasal reactions are not just infectious, or allergic, or emotional. Particularly in the chronic sufferers, there is an interdependence of all three. Death of a relative, or other psychic shock can pre-

*(concluded on following page)*

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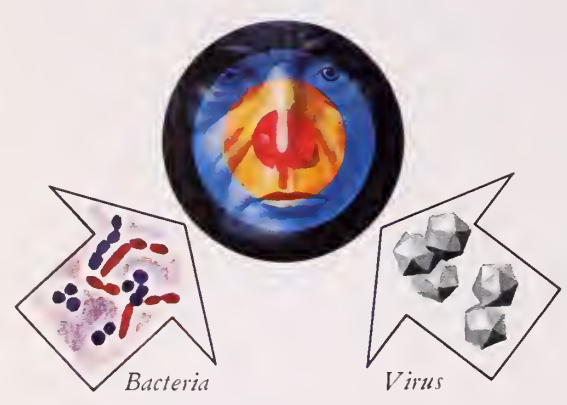
keep patients comfortable 'round the clock. 24-hour decongestion on just a single tablet dosed morning, mid-afternoon and at bedtime. Patients regain senses and can breathe, smell and taste again.

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**Side effects:** Occasional drowsiness, blurred vision, cardiac palpitations, flushing, dizziness, nervousness or gastrointestinal upsets. **Precautions:** The patient should be advised not to drive a car or operate dangerous machinery if drowsiness occurs. Use with caution in patients with hypertension, heart disease, diabetes or thyrotoxicosis.

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precipitate an attack of rhinorrhea in hay fever sufferers.<sup>12</sup> Others develop attacks of vasomotor rhinitis following change in temperature, chilling, or exposure to the sun, or simply warm bedclothes.



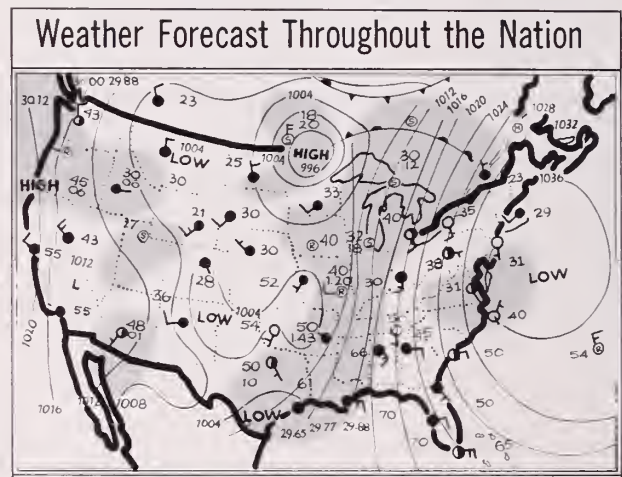
The complex interplay of allergy and infection is largely unclear. Allergy to the viruses and bacteria which cause infection has been postulated, but is difficult to demonstrate. The swollen obstructed allergic nose is more susceptible to infection. At the same time, infection often precedes or precipitates an allergic attack. Exposure of a susceptible patient to an allergen can activate latent virus organisms leading to infection.<sup>13</sup> This "jolt" reaction represents a summation of an allergen and a virus leading to symptoms in the nose as a shock organ, which neither could have produced alone. In childhood, repeated attacks of bronchitis and colds may be inflammatory reactions to an allergen, or precipitated by exposure to an allergen. These children may later develop typical allergic rhinitis. On the other hand, children with typical allergic histories, eczema, asthma, and allergic familial backgrounds, may later develop typical infectious rhinopathies. Skin tests in such patients are usually positive.

Nasal reactions are part of the systemic response of the patient to an unwelcome stimulus. In cases of respiratory infection and exposure to atmospheric irritants, the reactions are useful, and to some extent desirable. They are usually self-limited, disappearing within a few days, or upon removal of the provoking agent. Here the distressing symptoms can be ameliorated with appropriate decongestant agents, or, in the case of severe or complicated respiratory infections, antibiotics may be given, with reasonable confidence of a cure. On the other hand, when nasal reactions are the peculiar response of an individual to an allergen, or to an undesirable situation, they serve no useful purpose. The nose here is a shock organ in a stressful situation, but can furnish no response of value. It merely causes the patient symptoms which add to his problems. In these cases,

symptomatic treatment is of great benefit, but often the underlying faulty pattern of response cannot be altered. Such a patient may literally be considered to be paying his way in life "through the nose."

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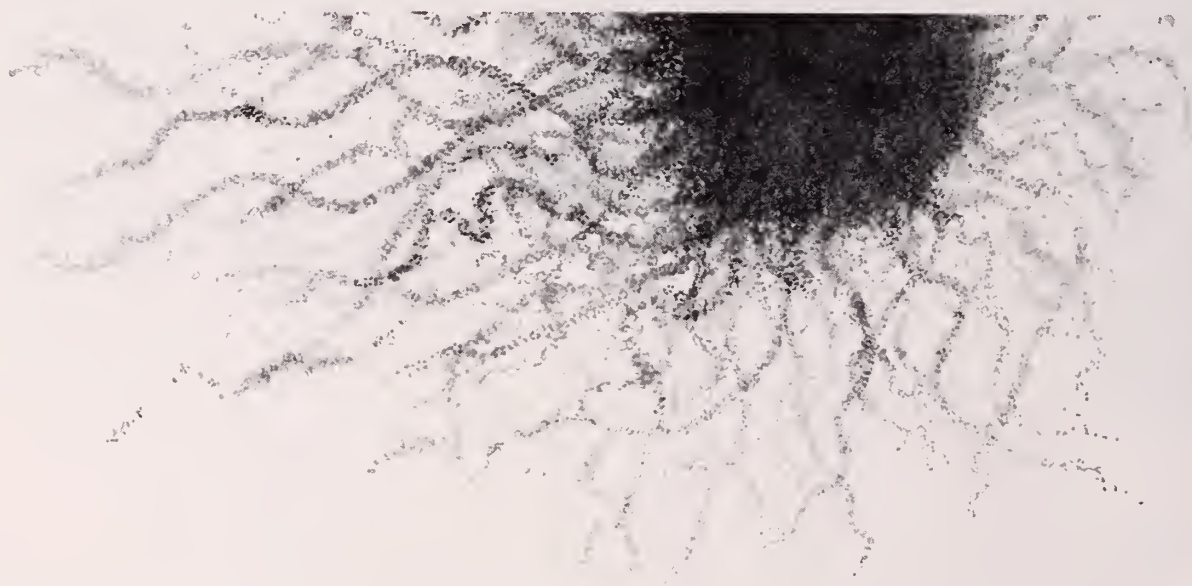
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# CANDIDA ALBICANS: NECESSARY EVIL?



**How serious is monilial infection?** It is hard to prove; but when host resistance drops, monilial infection can be very serious. Consider the problem of monilial infection generally. Two investigators postulate that secondary thrush of the bronchi caused by *C. albicans* may pave the way for bacterial invasion of the lungs.<sup>2</sup> Monilial pyelonephrosis in a young child presumably was related to a bloodstream spread of thrush from the alimentary tract.<sup>3</sup>

Thus, the physician browsing in the literature may wonder if *C. albicans* is not more pathogenic than he had thought. In fact, Seelig<sup>4</sup> con-

cluded, after an exhaustive literature review, that this organism, only slightly pathogenic in high concentrations on the mucosa of the normal subject, increases markedly in pathogenicity when host resistance drops.

**Antibiotics and increased candidiasis** Almost 20 years of clinical experience has established the usefulness of the tetracyclines beyond question. All "...possess a wide range of antimicrobial activity against gram-positive and gram-negative bacteria, which overlaps that of penicillin, streptomycin, and chloramphenicol."<sup>5</sup>

But...monilial superinfection as-

sociated with tetracyclines and other broad-spectrum antibiotics persists. Indeed, the incidence of secondary candidal fungal infections associated with antibiotic therapy has continued to rise. Analysis of autopsies in a general hospital from 1919 to 1955 showed an increase in secondary fungal infections since 1947.<sup>6</sup> More yeastlike fungi have been isolated from pediatric patients during the antibiotic era.<sup>7</sup> In fact, although some investigators question the clinical significance of *Candida* identification in clinical studies, "...the preponderance of evidence indicates that the use of antibiotics is associated with

## Monilial overgrowth continues to complicate tetracycline therapy... yet the usefulness of this broad-spectrum antibiotic is beyond question.

The tetracyclines are firmly established as very valuable agents in the therapy of a variety of infectious diseases."<sup>1</sup>

Increased incidence of candidiasis...<sup>4</sup> Moreover, certain antibiotics in particular — among them the tetracyclines — have been implicated in a variety of superinfections.<sup>8</sup>

### Benefits vs. risks

The tetracyclines are obviously far too valuable to be disregarded — in spite of fungal risks. But: *the risk of secondary monilial infection can be greatly minimized in the tetracycline therapy program.* The prophylactic use of an antifungal agent along with an antibiotic, long considered logical,<sup>9</sup> has been shown by clinical experience to exert protective effect against candidal superinfection.

Superior protection from monilial superinfection as demonstrated in the laboratory — in particular, Mysteclin-F, a combination of tetracycline with amphotericin B, an antimonomial that is significantly more potent *in vitro* against *C. albicans* and other *Candida* species than is nystatin,<sup>10</sup> is valuable in preventing monilial overgrowth. Amphotericin B has shown a high degree of activity *in vitro* against *Candida* species found in the intestinal tract. Moreover, it undergoes virtually no absorption from the gut, thus avoiding risk of systemic side effects.

Certain patients are particularly susceptible to monilial complications. They are: infants, the aged, the de-

bilitated, diabetics, women (particularly during pregnancy), and patients receiving prolonged or high-dosage antibiotic therapy or corticosteroid hormones.<sup>11</sup> But, since it is impossible to predict infallibly which patients will develop monilial complications, Mysteclin-F is a logical choice whenever tetracycline therapy is indicated.

Is *Candida albicans* a necessary evil? Hardly, with Mysteclin-F.

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Available as: *Capsules* in two potencies: the equivalent of 250 mg. tetracycline hydrochloride with 50 mg. amphotericin B, and the equivalent of 125 mg. tetracycline hydrochloride with 25 mg. amphotericin B, both buffered with potassium metaphosphate; *Syrup* (125 mg. tetracycline [hydrochloride equiv.] buffered with potassium metaphosphate, and 25 mg. amphotericin B per 5 cc.); *Pediatric Drops* (100 mg. tetracycline [hydrochloride equiv.] buffered with potassium metaphosphate, and 20 mg. amphotericin B per cc.).

Contraindications: Hypersensitivity to either component.

Warning: If renal impairment exists, lower-than-usual doses are indicated to avoid systemic accumulation and possible liver toxicity; on prolonged use, tetracycline serum level determinations may be advisable.

Photodynamic reactions, although rare with tetracycline, may occur. Advise photosensitive patients to avoid direct sunlight.

Precautions: Watch for signs of secondary infection due to nonsusceptible organisms; discontinue drug or institute appropriate therapy if they occur. Use of tetracycline, particularly long-term use, during pre- and post-natal tooth development may cause discoloration of teeth.

During long-term therapy, perform periodic renal, hepatic and hematopoietic function studies. Increased intracranial pressure with bulging fontanels has been observed rarely in infants taking therapeutic doses of tetracycline.

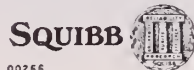
Side Effects: Nausea, vomiting, and diarrhea.

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## Hillcrest Medical Center

AS DETERMINED by the Editorial Committee and the Board of Contributing Editors, certain issues of *The Journal* will feature papers by the medical staff and administration of Oklahoma's leading medical institutions. The purpose of this policy is to acquaint physicians with the outstanding work being done in these centers throughout Oklahoma.

This issue is devoted to Hillcrest Medical Center in Tulsa. Hillcrest is a 500-bed, not-for-profit, community hospital with a staff of 370 physicians. We are grateful to Doctor Joe Spann, Chief of Surgery, for collecting the material which constitutes this special issue. □

## Hillcrest Medical Center-- Community Oriented

THE PRIME OBJECTIVE of Hillcrest Medical Center—to render the highest quality medical care to the total community at the lowest possible cost—is expressed in its philosophy, objectives and other official data. This means that as a not-for-profit community hospital owned by the citizens of Tulsa, Hillcrest Medical Center must admit charity and part-pay patients as well as those able to pay the full cost of their medical care. Further, Hillcrest Medical Center must give adequate medical service if it is to continue to serve.

The Trustees have a responsibility to see that this objective is achieved. A representative board of Tulsa citizens is elected to direct the administration of the hospital. In determining policy, the Trustees are guided by several principles. Good fiscal principles must always be applied, but the wisdom of the good business man is tempered by sound medical advice of the physician. The medical staff assumes an important advisory role to help the Trustees see the necessity of good medicine as well as good business. The

Trustee must further consider not only what is best for Hillcrest Medical Center but also fit the needs of Hillcrest to those of the total community. This requires an awareness of the practices and plans of Tulsa's other medical institutions.

Hillcrest is unusual in its form of ownership. It is a not-for-profit, charitable institution held "in trust" by the Board of Trustees. The Trustees serve gratuitously as appointed members. Hillcrest is not owned by any religious denomination, private organization, nor governmental agency. This form of ownership necessitates Hillcrest serving all elements of the Tulsa community.

Hillcrest provides the majority of the medical care for the indigent citizens of Tulsa. This is performed at an expense of over \$1,200,000 per year. As one example, annually over 5,100 adults and 3,800 children receive medical attention from one of Hillcrest's 28 weekly clinics. As a further service to the community, Hillcrest engages in extensive educational programs. Each year over 200 doctors, nurses, and technicians receive medical educations through one of Hillcrest's 12 nationally accredited educational programs. As a teaching institution, Hillcrest spends in excess of one-half million dollars annually to provide the citizens of Tulsa with the needed professionals for competent care.

The future of Hillcrest Medical Center holds new horizons for expanded research and medical advances for improved patient care. Expansion beyond the present 500-bed capacity, increased and new medical services, and additional educational programs are part of Hillcrest Medical Center's projected growth.

As a Trustee I am concerned that Hillcrest continue its search for excellence, but more important that all the citizens of Tulsa receive the best possible and most economical medical care available. Hillcrest is community oriented because its first concern is the total Tulsa community.—Ben Voth, Chairman, Board of Trustees □

## *A Healthy Future*

IT IS EASY to recognize that the whole world is undergoing tremendous change. This change affects all aspects of our lives; the technological and the social, the economic, and the spiritual. In such a dynamic setting, it is no wonder that in the area of health care we too are caught up in a swirl of change, the like of which no one has witnessed before.

When Henry Ford II began popularizing the word "automation," one of the most common and confident pronouncements by many health officials was that automation, although good for manufacturing and other commercial enterprises, could not be applied to medicine or to the operation of a hospital. I was one of those who believed this. I would make my point very emphatically by saying, "A robot cannot possibly take the place of a nurse." Now I find myself taking issue with my position of a decade ago.

I do not envision the future hospital patient in a sterile, stainless steel room full of gauges and pushbuttons where he would be served his meals by a two legged metal creature. Nor do I see a patient's temperature being taken from a thermometer held in the out-stretched steel tubular arms and hands of "Roberta the Robot." But automation has moved into the hospital scene just as surely and almost as quickly as it has moved into the business world. The existence of computers in hospitals is almost "old hat" now, particularly among larger institutions. Automatic electronic monitoring of patient's vital signs which will sound an alarm when anything goes awry is not uncommon nowadays. Regulating a patient's heart beat while under constant scrutiny and control by an electronic machine is common. Keeping a patient alive on the operating table by taking over the functions of his lungs and heart by use of machinery is commonplace in medical centers. Changing human parts, just like changing parts in an automobile, is beginning to become an accepted occurrence. And the day when frequent transplantation of either human parts for human parts or fabricated devices for human organs is within view.

Modern technology has linked with medicine on almost every front to the end that we have, or soon will have, medical tools and techniques to do things which were undreamed of just a few years ago.

If, within ten years, the prevention of arteriosclerosis is achieved, and we are told by scientists that this will surely result, we will then have eliminated the leading cause of deaths among elderly people. The result will be that the average life expectancy will suddenly jump to around 140 years. We will find ourselves retiring from work when we have lived only half our lives. This, coupled with an increasing birthrate, will mean that more people at one end of life's ladder will be living far beyond previous life limits and that with more babies being fed into the beginning of life's stream the result will be a population glut.

The rate of increase of population is rising rapidly yet the number of doctors graduating yearly has barely increased in the past ten years. The number of nurses falls far short of the need. In almost every health profession the same is true.

By current and yesterday's standards we are indeed short of trained health personnel. But we should have learned a lesson from industry long ago that the real secret in coping with this, and at the same time furnishing the top-notch health care which citizens demand, will come about only by increasing the productivity of the health profession, headed by the physician.

This will probably mean more "assembly line" medicine. It will be more efficient and more effective than any care we have had in the past. We will strive mightily to remove the horror of cold, impersonal treatment but in any assembly line operation, as most of us foresee, this is exactly what we will be getting. In order to increase the productivity of our health team members we will seek greater utilization of the equipment and facilities already in existence. We also will see, of course, new facilities and new equipment being added all the time. For instance, the community hospital is a repository for more and more very expensive and intricate equipment which doctors themselves cannot afford in their offices. Therefore, they are willing to share this equipment with other doctors in the community



hospital in order to bring to the patient that which he should have. At the same time, the doctors and patients save money by using centralized facilities.

Doctor George James, Commissioner of Health for the City of New York, set the stage for the future in health care in a most descriptive way. He feels it is useful to think of disease and of medicine's response to it in four stages:

1. *Foundation and predisease factors.* Elements in this stage are the genetic heritage, environmental and family-cultural factors. For instance is a child started on a diet high in saturated fats? The fat child as well as the heavy smoking, overeating, non-exercising adult are people in the first stage of disease.

2. *Presymptomatic disease.* Examples of this stage might be certain kinds of precancerous lesions; asymptomatic cancer of the cervix; undetected, asymptomatic tuberculosis; high ocular tension which precedes glaucoma. It appears likely that prediabetic conditions also will be identifiable.

3. *Symptomatic disease.* This is the traditional province of medicine. A patient has a pain and comes to the doctor. Medicine's response is to do something about it. (This is the stage, too, where we woefully fragment our patients among dozens of organ-centered specialties.)

4. *Rehabilitation and management of incurable conditions.* In this stage, for instance, a man's leg has been amputated and he is given an artificial leg; but nobody tells him how to use it, and it ends up hanging in a closet. This is unfulfilled, totally unacceptable fourth-stage medicine.

The fourth stage in the natural history of disease demands concentration on the individual's special problems and abilities in addition to treatment. A professional football player with mild rheumatoid arthritis will have much more of a total problem of adjustment than the man with a desk job who may have the same disease. Fourth-stage medicine is what our aged need so desperately to maintain their self-sufficiency, yet there are those who find it least available.

In every instance possible, we should act in the earlier stages of disease. In the future, we shall attempt to catch disease before it becomes chronic—better still, to prevent it.

Medical care in the future will not be limited to the practice of third-stage clinical medicine. The patient will be considered as a total series of medical problems covering various stages of many different diseases. Medical histories will no longer begin with a "chief complaint" followed by a detailed discussion of the "present illness."

The organizational implications for medical centers are enormous. Patient-centered medicine bears so little resemblance to that which is disease—or organ-centered—that entire concepts of the organization must be changed. The emergency department, which is fast becoming the most available day-or-night focus for medical care, could become the start of a true approach to thorough ambulatory patient care.

It is through the awareness of man's total need that the era of automated health care should be able to contend with the fear many of us have that our assembly line techniques will necessitate a harsh, austere, cold, impersonal attitude on the health team member's part. I use the word "team" for a reason: Effective health care in the future will be a team effort.

So this is what we see in the future. We also see that among all fields of science, medicine ranks first in terms of achievement. I need only point to results to justify this statement. Since 1900 the average life span has increased more than 20 years. Just how does one equate 20 years of life with anything material? The answer is simple: There is nothing in life so precious as life itself. Life is our whole and total possession. Life is ours to have, to use and to enjoy, and the progress of medicine will make this gift of life to each and every one of us in the years to come the most precious single endowment we could ever hope to have. And our prime goal is not just to add years to life, but also to add life to those years.—James D. Harvey, Administrator □

## *Long Range Planning-- A Must*

LARGE MEDICAL centers by their very nature are complex organizations. With the many disciplines working together and the varied relationships between education, re-



## *editorial*

search, curative and preventative medicine this organizational complexity is to be expected. Coupled with this, there have been vast changes in the methodology of patient diagnosis and treatment resulting in approaches to care which are more sophisticated and broader in scope.

These many factors have given rise to the complex medical center to meet the complex needs of modern medicine. But too often these centers have grown entirely out of need and without vital long range planning. As time passes the oversights that inevitably result from lack of planning become increasingly apparent and difficult to deal with effectively.

Hillcrest Medical Center has experienced many of the typical problems inherent in rapid growth and just meeting the demands of current medical science and current community needs. It became obvious that we must plan with sufficient vision to furnish the space and facilities in advance of the scientific achievement if we are to serve the community properly. Through this planning we sought to provide and optimize the orderly growth of the medical center based on the projected long range patient and community needs.

For several years we gathered data on census by clinical service and geographic location of patients. We collected and made population and economic projections for the metropolitan area. The medical staff played a major role in submitting ideas and data to be used as guidelines in terms of space and facility needs. The material gathered obviously substantiated the Board of Trustees' opinion that competent planning on a continuing basis is as important as the day to day operational problems of the institution. The medical staff demonstrated their belief in the necessity of long-range planning for Hillcrest Medical Center when they financially underwrote a large segment of the cost of this planning process.

The Board of Trustees appointed a planning committee to undertake a thorough investigation of the information gathered and

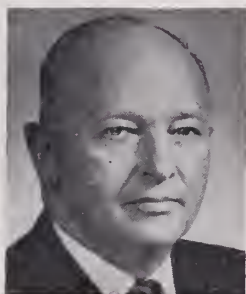
also to evaluate the possible role of consultants. After much consideration a nationally recognized architectural firm was retained to do the necessary professional planning. This organization is international in scope and has been responsible for some of the most impressive and functional medical school and hospital projects in this country.

It must be emphasized that long range planning is not just planning a building for the future. Space requirements, and future facilities are important, but the underlying foundation is based on Hillcrest Medical Center's philosophy of service to the total community, and programming our services to meet community need. Long range planning at Hillcrest Medical Center provides an outline of the needs of the physician, the patient, and the community, and the best way that Hillcrest can meet these combined needs.

The actual planning has been a very exacting procedure which has utilized the members of the Board of Trustees, Administration, the members of the Medical Staff and key people in each department. More than a year has gone into the study to determine the future orderly growth and development at Hillcrest Medical Center. Upon completion, this plan will be published in book form showing the growth and realignment of the medical center in three stages.

Long-range planning, has become one of the important aspects of hospital operation. Its value manifests itself continually as more people use a greater number of health services. Planning at Hillcrest is a vital process which will serve as an outgoing tool of management.

The ultimate planning goal of Hillcrest Medical Center is the establishment of an area-wide planning agency which would guide the community in its planning for all segments of medical care for Tulsans. This agency must be community-based if it is to be effective. It must truly serve the community with the ultimate goal that the patient gets the most for his medical dollar spent through proper utilization and design of facilities in the total Tulsa area.—  
*George Dickinson, Senior-Assistant Administrator* □



The medical profession possesses several unique qualities, not the least of which is the constant striving to put itself "out of business." This is unlikely, albeit, but consider the magnitude of research and development, clinical applications, and innovations which are all designed to prolong human life and lessen human suffering—and thus to make good health victorious over sickness.

An important feature of this headlong drive to unlock the mysteries of human life and death is the absence of secrecy in reporting achievements and in pooling knowledge for the benefit of patient care. There is healthy competition, to be sure, but the common mission of medical science overrides all other considerations.

This special issue of *The Journal* is an excellent example of the way in which phy-

sicians and hospitals share their experiences and ideas for the benefit of all. And more of the same is in store for *Journal* readers, for it is hoped that other major institutions will follow Hillcrest as featured contributors to subsequent issues.

Efforts to standardize medical practice will continue, but as long as patients are individuals, health institutions are autonomous entities, and physicians aspire to professional achievement, there will be exciting progress made through a variety of approaches.

Reporting this progress in medicine's tradition of the free exchange of scientific advancements is a primary function of the association and its monthly publication.

May Oklahoma's health care industry continue to pull together toward its common objective.

The Oklahoma State Medical Association is grateful to the authors, the medical staff, and the administrative executives of Hillcrest Medical Center for making this special issue possible.

*Ennis M. Hullatt, M.D.*

## Computer Simulation in the Study of Atrial Fibrillation

WILLIAM J. OSHER, M.D.  
THOMAS W. CAIRNS, Ph.D.

*A model of atrial tissue incorporated into a computer program is used. This simulation is made to "fibrillate." Printouts of this process are shown.*

IN THE APPLICATION of logic or mathematics to an experimental problem, it is frequently expedient to construct an abstract model of the system under consideration. This model, usually referred to as a mathematical model, is built by specifying a rule by which the phenomena which have been observed are associated with elements of a logical or mathematical structure. The model which results is useful in obtaining insight into the system being studied. A further use of the model is in the testing of hypotheses.

It is this application of models that forms the basis for the use of mathematics or logic in explaining experimental phenomena. It

From the Department of Mathematics, University of Tulsa, Tulsa, Oklahoma. This investigation was supported in part by Public Health Service Research Grant HE 10556-01 from the National Heart Institute.

is apparent, of course, that one's success in doing this depends strongly on the validity of the model. In this sense, the model must somehow reflect the experimental system, the rule for association of the model and the system must be consistently used and the logical and mathematical manipulations must be correct.

A further refinement in the use of models is the construction of a simulation. This procedure which becomes useful in the study of complex or sophisticated systems involves the embodiment of the model into a physical system. Thus, a collection of glass and rubber tubes may be used as a simulation of the circulation or a network of wires as a physical realization of a model of the nervous system. A computer program represents another realization of a model with the advantage that the operation of the simulation can be studied in a digital computer with corresponding speed and accuracy. These last characteristics account for the wide use of computer simulation.

Computer simulation has been used in widely separate fields such as business, engineering, and medicine. It offers obvious advantages in the training of personnel and in the design of equipment and experiments. Additionally, computer simulation makes it



possible to carry out experiments in biology and medicine which would otherwise be prohibitive because of danger to the subjects, economic cost, or complexity.

In the study of a medical phenomenon such as atrial fibrillation it is apparent that these considerations would weigh heavily in the choice of computer simulation as a method of approach. In the discussion of this arrhythmia that follows, a model of a region of the atrium is used.

McWilliams in 1887 first produced, along with many other arrhythmias, atrial fibrillation in the dog heart by faradic stimulation. The relationship of this to the clinical condition manifested by a totally irregular heart rhythm was suspected by subsequent investigators. MacKenzie provided a definitive description of "auricular fibrillation" in man in 1908. There has since been considerable discussion concerning the mechanism of this disorder with a tendency to the development of schools of thought. These viewpoints, summarized by Katz and Pick,<sup>1</sup> tend to fall into three main groups:

I. Atrial fibrillation is due to a rapidly discharging focus or rapidly discharging foci.

II. Atrial fibrillation is due to a self-perpetuating impulse or self-perpetuating impulses travelling around obstacles.

III. Atrial fibrillation is due to conditions described in I and II existing simultaneously or sequentially.

A basic consideration in evaluating these positions is whether the types of cardiac activity that they entail can indeed occur. The property of automaticity of cardiac tissue is well established and there appears to be solid evidence<sup>2,3</sup> that a high frequency rapidly discharging focus can be induced in atrial tissue under appropriate conditions. The demonstration of the other type of cardiac activity, that of the re-entry of impulses with consequent self-perpetuation, appears to be more difficult. Rosenblueth and Garcia Ramos<sup>4</sup> succeeded in producing a self-perpetuating impulse around the venae cavae in dogs and could demonstrate the path of the impulse as it passed by successively recording electrodes. It was possible to show that this type of activity was regular, predictable, and self-perpetuating until stopped.

Under conditions where the paths of re-entrant impulses are variable and under conditions where large numbers of these impulses may coexist in a chaotic fashion, it is apparent that the problem of demonstrating and analyzing the reentrant pathway is formidable. Wiener and Rosenblueth,<sup>5</sup> however, laid the mathematical basis for the possibility of this type of activity by considering it a random process in time and showing analytically that it was possible under certain general conditions. This work is an example of the power of a mathematical model in the solution of a complex problem.

Another method of demonstrating the possibility of re-entry under the previously mentioned conditions is the use of simulation. Moe, Rheinboldt, and Abildskov<sup>6</sup> described a model of the atrium which had been incorporated into a digital computer program. This simulation was tested on a computer and did enter into a self-perpetuating process. These workers studied the effect of changing certain parameters on the initiation and cessation of this type of activity.

In the work that follows a computer simulation of a portion of the atrium was constructed much in the manner of the group cited above. This model was a two-dimensional matrix 40 by 40 units. Each unit was considered to be homogeneous and to undergo excitation as a whole instantaneously. Each unit also had six neighbors to which

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*Doctor Osher is a member of the American Federation for Clinical Research, the Society of Nuclear Medicine and the American Society of Internal Medicine.*

*Thomas W. Cairns, Ph.D., graduated from Oklahoma State University in 1960 and is presently Associate Professor of Mathematics at the University of Tulsa. He is a member of the Mathematics Association of America and the American Mathematics Society.*

Fibrillation / OSHER, CAIRNS

it could transmit excitation under appropriate conditions.

Certain physiological properties with respect to refractory period and conduction were assigned to each unit. These were similar to the ones used by Moe, Rheinboldt, and Abildskov. The absolute refractory period of adjacent units could differ and the value for each unit was assigned in a random fashion according to a uniform distribution. In the actual computations, this value was also partly dependent on the duration of the previous cycle for that unit. A relative refractory period of 30 milliseconds (msec.) was assigned to all units. The speed of conduction was set at 80 cm./sec. through the non-refractory units and at less for units in the relatively refractory state. On the basis of an assumed diameter of four mm. per unit, this resulted in a time of five msec. for conduction through the non-refractory unit. A convention of a time unit equivalent to five msec. of real time was adopted and all phenomena were assumed to occur in discrete steps of one time unit or of an integral multiple of one time unit.

A computer program was prepared incorporating the model set forth above. The simulation that resulted was set into motion by "stimulating" four adjacent units in the matrix with similar refractory periods. Stimulated in this sense indicated that the units were considered to have entered into the excited state in the time step under consideration. A computer printout illustrating the state of the matrix at the start of the computer run with four units stimulated is shown in figure 1A. This occurred at a time designated time step 0.

The condition of the matrix at time steps 8 and 17 is shown in figures 1B and 1C. This is considered to represent normal propagation of an impulse through atrial tissue. The impulse radiated from the points of stimulation and spread out in a roughly circular fashion to the periphery of the matrix. In this respect the simulation behaved like normal atrial tissue responding to a pacemaker as in the case of normal sinus rhythm. It was also apparent that if no further stimulation took place activity would die out as the wave reached the border of the matrix.

The original four units were subjected to stimulation in each time step repeatedly for



Figure 1. This figure illustrates the matrix as it appeared in a computer printout. The numbers at the left and the bottom are for identification of the units of the matrix. Stars represent stimulated or excited units. Figure 1A shows the matrix at time step 0 when only four units are excited and the remainder of the units are resting. Figure 1B shows the spread of the resulting wave. The wave appears hexagonal because of the nature of the relationship of each unit to its neighbor. There is also some vertical elongation of the wave due to the spacing of the lines in the computer printer. Figure 1B shows further spread of the wave with dying out of the impulse at the border of the matrix.



Figure 2. Figure 2A, printed at time step 50, shows the appearance of a small amount of irregularity in the contour of the wave. Some persistent activity near the site of stimulation which had been stopped at time step 45 can also be seen. Figure 2B, printed at time step 193, shows further irregularity. The general shape of a wave, however, can still be distinguished. Figure 2C, printed at time step 509, shows generally chaotic activity with a tendency to separation into distinct regions.

a total of 45 time steps. The activity induced in the matrix was observed to persist following the cessation of stimulation and showed no sign of abating after having been observed for more than 1,000 time steps corresponding to five seconds of real time. In

this respect, the simulation appeared to have achieved a self-perpetuating condition.

The activity of the matrix was observed to undergo a progressive change in character. Figures 2A and 2B demonstrate that the waves became progressively less smooth



Figure 3. These printouts, taken at time steps 184, 192, and 200 illustrate a means of following the progression of activity in the matrix.



## Fibrillation / OSHER, CAIRNS

in contour and eventually as is shown in figure 2C broke up into regions of self-perpetuating activity. It is also evident from this last figure that the activity became chaotic.

The value of the simulation method becomes apparent when one attempts to follow the development and progress of the chaotic activity. Figures 3A, 3B, and 3C represent printouts separated by intervals in time of eight time steps. These demonstrate a graphic method of observing the changes that were taking place in the matrix. By more frequent printouts it was possible to follow the spread of excitation from each unit of the matrix to its neighbors. In actual practice this process is now being investigated by analytic methods.

This simulation thus establishes the possibility of self-perpetuating activity in a model of a region of the atrium. This demonstration, however, falls short by two important logical steps of proving that atrial fibrillation in the human being is due solely to this mechanism as has been postulated by some investigators. The first step consists in showing that this model is indeed a suitable one for studying the propagation of impulses. This would involve scrutiny of the rule under which the region of the atrium was associated with the model or, more specifically, examining the correctness of the physiological properties which were assigned

to the model. This is to say, are the physiological properties contained in the model sufficiently close to those of the human atrial tissue subject to fibrillation? The examination of this problem is beyond the scope of this paper except to say that many of the properties used were based on measurements made on the dog atrium.

The other logical step entails demonstrating that this is the only type of activity possible in the fibrillating human atrium. This would require data which are not now at hand. Hopefully, further study of the model will disclose what type of data is necessary for this purpose and how the data can be acquired by present methods. □

### ACKNOWLEDGMENT

The authors wish to express their thanks to the University Computing Company for the donation of computing time used in this project.

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- 2651 East 21st Street, Tulsa, Oklahoma

## OSMA Regional Postgraduate Course

## "RESPIRATORY INFECTIONS"

February 21st, 1967

Bartlett Memorial Hospital, Sapulpa, Oklahoma

### AFTERNOON SESSION

4:30 P.M. *INFECTIONS OF UPPER RESPIRATORY TRACT*

*Harold G. Muckmore, M.D.*

5:30 P.M. *ACUTE AND CHRONIC BRONCHITIS*

*James F. Hammarsten, M.D.*

### EVENING SESSION

7:30 P.M. *PNEUMONIA*

*Everett R. Rboades, M.D.*

8:15 P.M. *PANEL: COMPLICATIONS ASSOCIATED WITH RESPIRATORY INFECTIONS*

*Harold G. Muckmore, M.D.*

*James F. Hammarsten, M.D.*

*Everett R. Rboades, M.D.*

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# Dye Dilution Curves in Cardiac Diagnosis:

## *Comparison of the Normal and Small Left to Right Shunt Curves*

MARION K. LEDBETTER, M.D.

*A dye dilution curve reveals more information regarding the patient's hemodynamics than any other parameter measured during cardiac catheterization. Two curves recorded together reveal the absence of, or the presence and magnitude of, a shunt flow.*

THE SIZE of intracardiac shunts and patterns of blood flow through the heart and lungs can be evaluated by dye dilution curves recorded during cardiac catheterization. These curves enhance the accuracy of diagnoses. They aid in decisions for patient care such as the amount of activity which may be well tolerated and consideration of surgery. They allow one to detect and quantitate small intracardiac shunts not easily detected by other means; and when not present, cardiac anomalies can be ruled out positively.

Methods developed at the Mayo Clinic by Doctor Earl H. Wood and associates<sup>1</sup> were applied in the cardiopulmonary laboratory of Hillcrest Medical Center. The method is described here briefly with its applications in a normal child who was suspected of having, but did not have, a cardiac lesion, and in another child with a small ventricular septal defect.

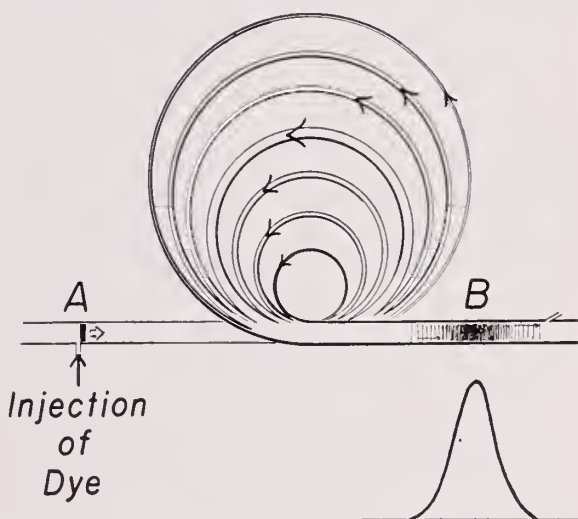


Figure 1 represents the schematized circulation through the lungs of a dye-blood mixture after the sudden injection of the dye at site A, (pulmonary artery), and sampling for the dye curve at site B (aorta) (see text for explanation). Reproduced, courtesy of Doctor E. H. Wood.<sup>1</sup>

### THEORETICAL CONSIDERATIONS

The variable size circles of figure 1 schematize the different lengths of circulating paths which a dye-blood mixture takes through the lungs after the dye has been injected suddenly into the pulmonary artery (site A). Blood is withdrawn continuously from a catheter in the aorta (site B) and is passed through a photocell arrangement which detects the difference in light transmission relative to the dye concentration in the blood. The curve recorded on the horizontal time axis is thus a concentration-time

This project was supported in part by a grant from the Tulsa County Heart Association.

plot. Its contour is determined by the amount of dye injected, the volume rate of flow, and the size of the vascular bed from where the dye is injected (pulmonary artery), to where it is sampled (aorta). The dye-blood mixture does not normally appear again in the pulmonary artery until it has traversed some part of the systemic circulation. However, if it is short circuited through an abnormal communication in the heart, such as a ventricular septal defect, it appears again in the pulmonary artery shortly after it appears in the aorta.

The cardiac output determines the area encompassed by the dye curve. The Hamilton<sup>2</sup> equation for calculating the cardiac out-

put is:  $Q = \frac{60 I}{\bar{c} PT}$ .  $Q$  = flow in liters per

minute,  $I$  = the amount of dye in mg.,  $\bar{c}$  is the mean concentration of the dye (mg./L) during the passage time (PT) in seconds. The expression  $\bar{c}PT$  is equal to the area encompassed by the curve. Hetzel and associates<sup>3</sup> modified the Hamilton equation so that the area could be easily calculated from measurements of the first part of arterial curves.

The area which is encompassed by an early appearing short-circuit curve is determined by the size of the shunt. The ratio of the area of the early appearing curve to the area of the arterial curve determines the fraction of the total pulmonary flow which is shunted across the defect.

PATIENT STUDIES

Figure 2 is the x-ray of a ten-year-old girl who was suspected of having a small ventricular septal defect and in whom a

A 1946 graduate of the University of Oklahoma School of Medicine, Marion K. Ledbetter, M.D., has been certified by the American Board of Pediatric Cardiology. He is presently Director of the Cardiopulmonary Laboratory at Hillcrest Medical Center in Tulsa. He is a member of the American Academy of Pediatrics and the American Heart Association.



Figure 2 is the x-ray of a ten-year-old girl in whom a cardiac anomaly was excluded from consideration. Catheters had been placed in the right pulmonary artery, the main pulmonary artery, and the aorta. (see text)

diagnosis of heart disease was excluded. The catheter placed distally in the right pulmonary artery was for the dye injection. The other two catheters with radio-opaque tips were placed in the aorta and the main pulmonary artery; they were for continuous sampling of the dye-blood mixture, and for recording pressures.

Figure 3 illustrates the dye curves of this girl, recorded simultaneously from the main pulmonary artery (upper, small curve), and from the ascending aorta (larger curve), after the injection (vertical arrow) of 2.5

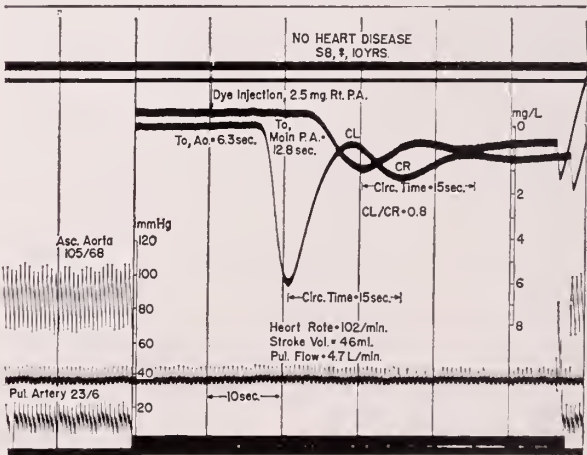


Figure 3 depicts the dye curves and other parameters of cardiac catheterization in the child without heart disease whose x-ray is shown in figure 2. (see text)



mg. cardiogreen dye into the catheter in the right pulmonary artery. Vertical time lines are ten seconds apart. (Ta), denotes the appearance times of the dye, first in the aorta, (Ao = 6.3 seconds) and later in the main pulmonary artery, (Main PA = 12.8 seconds). The pulmonary artery curve is a slurred version of the aortic curve. Note (CL), least dye concentration, the time when the aortic curve has returned closest to the base-line. Here the pulmonary artery curve has achieved its maximum dye concentration, indicated on the scale in milligrams per liter (mg/L). (CR) denotes the recirculation concentration when the dye-blood mixture reappeared in the ascending aorta. The ratio of the least to the recirculating dye concentration ( $CL/CR = 0.8$ ) is a normal value. The time from the peak concentration to (CR) denotes the recirculation time and can be measured from either curve. The stroke volume is calculated by dividing the heart rate (electrocardiogram) into the cardiac output (Pul. Flow). The aortic and pulmonary artery pressures are normal.

Figure 4 depicts the data of a five-year-old girl in whom a small ventricular septal defect was demonstrated by selective cineangiocardiology, after injection of contrast material into the left ventricle. Comparison with figure 3 reveals early appearance of the shunted dye-blood mixture in the main pulmonary artery 1.6 seconds after its appearance in the aorta. The shunt was calculated as 35 per cent of the total pulmonary flow. The time of peak concentration in the pulmonary artery corresponded again to the least concentration (CL) in the aorta. Note the slurred recovery slope of the aortic curve, due to the shunt into the right ventricle and pulmonary artery.

#### SUMMARY

Occasionally it is necessary to catheterize patients in whom cardiac anomalies are sus-

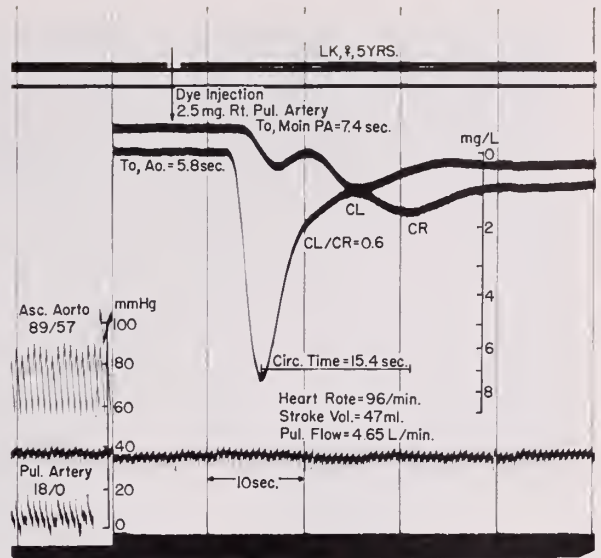


Figure 4 shows the dye curves of a five-year-old girl with a small ventricular septal defect. (see text)

pected but cannot be proved by clinical methods. Dye dilution curves allow one to diagnose and quantitate small shunts accurately. Conversely, when not present, such lesions can be confidently excluded from consideration.

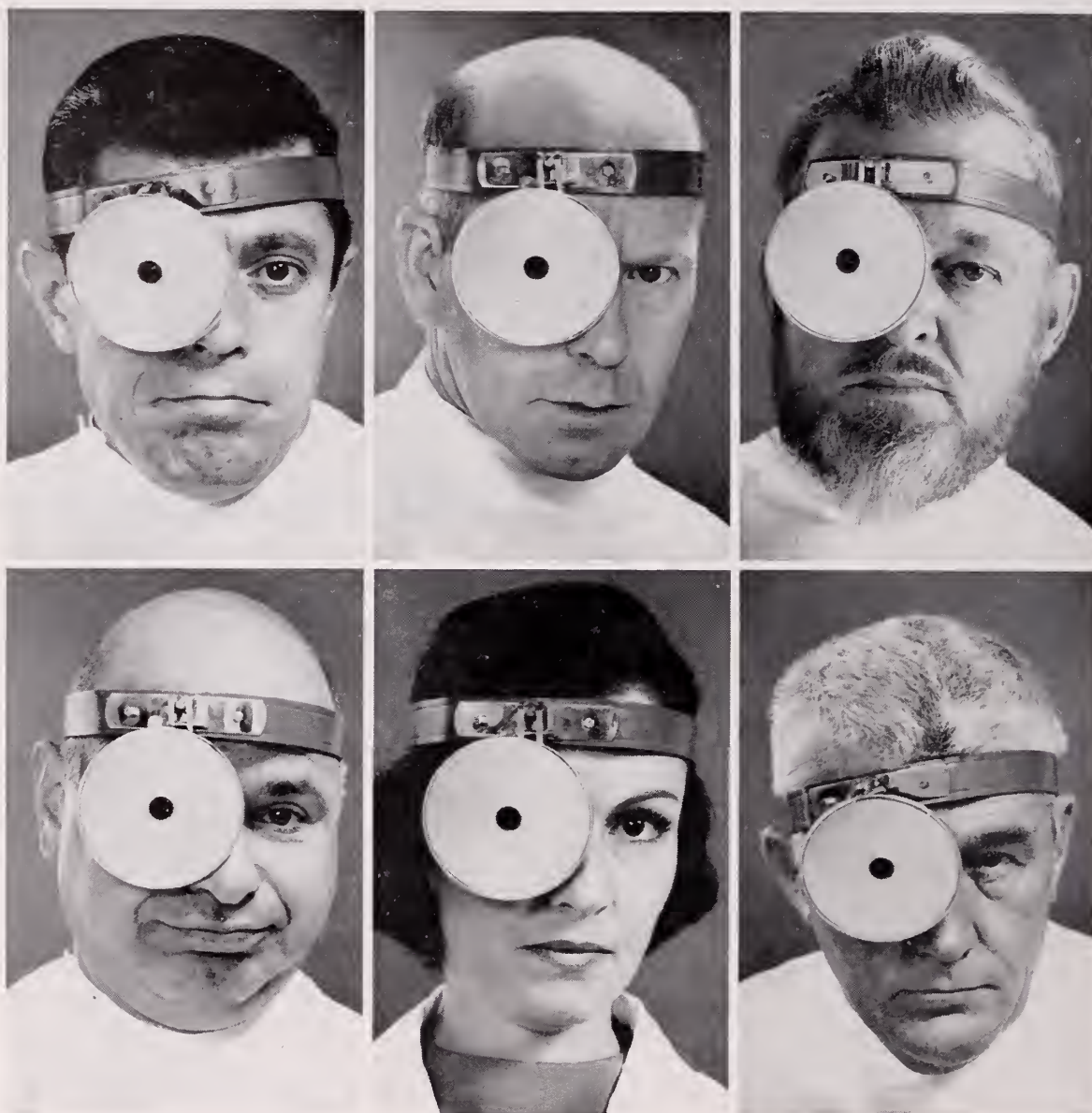
Theoretical considerations and methods for recording simultaneously aortic and pulmonary artery curves were explained.

*Bibliography available from the author on request.*

#### ACKNOWLEDGMENT

The valuable assistance of Jack Paden, B.S., A.S.C.T., Magda Torres, B.S., cardiopulmonary technologists, and James Shultz, B.S., laboratory fellow, was essential for carrying out these studies. Mr. Delbert Jackson and Mr. Rodney Hall prepared the illustrations.

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## "All Otolaryngologists are Alike"

Just look at them and you can see how much they have in common. Besides, they all go through pretty much the same training, and pass the same kinds of tests, and measure up to the same sort of standards. Therefore, all otolaryngologists are alike. Right?

Wrong! But that's no more preposterous than what some people say about aspirin. Namely: since all aspirin is at least supposed to come up to certain required standards, then all aspirin tablets must be alike.

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So next time you hear someone say that *all* aspirin tablets are alike, you can say, with confidence, that "it just isn't so."

You might also say that all otolaryngologists aren't alike, either.



# Tension Pneumothorax in the Newborn

JOHN M. HILL, JR., M.D.

*Accuracy of diagnosis and rapidity of proper medical management coupled with a high index of suspicion are critical factors in survival of the neonate with tension pneumothorax.*

THE INCIDENCE of clinically important pneumothorax in the newborn is 0.07 per cent.<sup>1</sup> The incidence is much higher in premature infants, 0.7 per cent, than in full term infants, 0.1 per cent.<sup>1</sup> In full term infants the onset of the disease is immediately after birth, whereas in infants under 150 grams, Lubchenco found the average age of onset of spontaneous pneumothorax to be 24 days. The reason for this difference in the age of onset is unknown.

The etiology of tension pneumothorax has been attributed to high intratracheal pressures such as may occur from manual positive pressure apparatus, and following aspiration of the blood and meconium.<sup>3</sup> Transpulmonary pressures up to 120 cms. of water may cause alveolar rupture; that is, during uneven expansion in the newborn period, alveoli already open may rupture since they are subjected to the same high negative pressure as still unopened alveoli.<sup>4</sup>

Machlin and Machlin discussed the pathogenesis of pneumomediastinum and pneumothorax in 1944<sup>5</sup> with interstitial emphy-

sema and dissection of air up the vascular sheaths to the mediastinum and pleural spaces.

Mary E. Avery stated that, "Any sudden change in vital signs should alert the physician to the possibility of air under tension."<sup>6</sup>

## MATERIAL

Following are ten case reports, with roentgenograms, and a graphic analysis of cases of tension pneumothorax in the newborn.

### Case 1

Four lb. one oz. white male breech was delivered of a para II, gravida III; first and second stages lasting approximately two hours. The one minute Apgar score was two. The heart was shifted to the left. A needle thoracentesis produced 12 cc. of air. A roentgenogram revealed pneumothorax in the left basilar area with mediastinal shift (figure 1). There was an associated oligohydramnias and amnion nodosum. Underwater drainage was established but the baby expired. Autopsy revealed atrophy of both lungs and renal agenesis compatible with Potter's Syndrome.

### Case 2

Four lb. six oz. white female was delivered at home of para I, gravida II and was in respiratory distress on arrival at the hospital. The infant's chest roentgenogram re-





Figure 1. PA projection of chest before and after removal of 12 cc's of air. Note mediastinal shift to the right and basilar pneumothorax on the left.



Figure 2. PA of chest revealing pleural air on the right. Following high humidity air inhalation and antibiotics, a repeat film that afternoon revealed resolution of the pneumothorax.

vealed a pneumothorax on the right with accompanying pneumonia (figure 2). The baby received high humidity air inhalation and antibiotics. She recovered without sequelae.

#### Case 3

Four lb. 12 oz. white female delivered by cesarean section of a para IV, gravida V as a repeat cesarean section delivery. The baby was in respiratory distress at birth. Thirty-six hours later the respiratory rate increased and the infant became dusky. The chest roentgenogram revealed bilateral pneumothorax and pneumomediastinum (figure 3). A tube thoracentesis was performed, connected to underwater drainage and the infant recovered.

#### Case 4

Eight lb. two oz. white female delivered by low forceps of a para I, gravida I. A large placental hematoma was noted and massive bleeding occurred compatible with placenta abruptio. No voluntary respirations occurred. An Emerson resuscitator was used. The infant recovered momentarily but became apneic again. A chest roentgenogram revealed bilateral pneumothorax with subcutaneous emphysema (figure 4). A needle thoracentesis was performed without avail and the infant died. Autopsy revealed intraventricular hemorrhage and bullous emphysema of the lungs and mediastinum.

#### Case 5

Six lb. three oz. infant was delivered after a two hour labor of para 0, gravida 1 with no complications of pregnancy. The baby's Apgar score was seven on arrival at the nursery. Two hours later the infant sudden-

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Figure 3. Roentgenograms demonstrating bilateral pneumothorax with air in the anterior mediastinum as demonstrated in the lateral view (note air between cardiac shadow and sternum partially obliterating the cardiac configuration).

A film taken later the same day following instillation of an intracath and underwater drainage with marked resolution of the previously described pneumothorax.

ly became cyanotic and the respirations were quite labored. An intracath was inserted in the right second intercostal space and attached to an underwater drainage system. Roentgenograms taken previously revealed a massive bilateral pneumothorax (figure 5). The baby responded slowly to treatment and later was discharged. Follow up examinations at monthly intervals have revealed no problems in respiration.

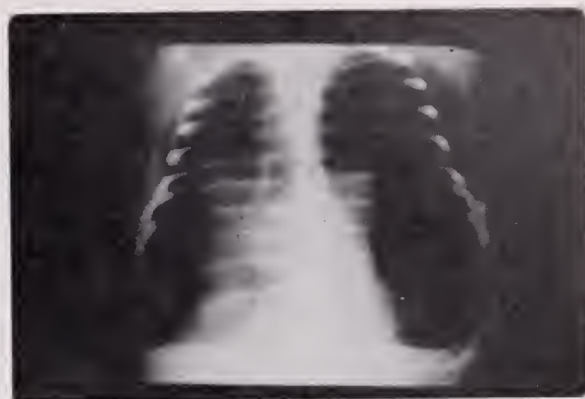


Figure 4. Infant with complete bilateral pneumothorax. The collapsed lungs present a typical butterfly configuration. Note the rather large collections of air outside the thoracic cage. Autopsy revealed bullous emphysema of the lungs and mediastinum.

#### Case 6

Two lb. 15 oz. Negro male delivered from a para I, gravida II, whose cervix was completely dilated on arrival at the delivery room. An amniotomy was done and the mother delivered one hour later. The one minute Apgar score was nine. Four hours later respirations were labored and the baby

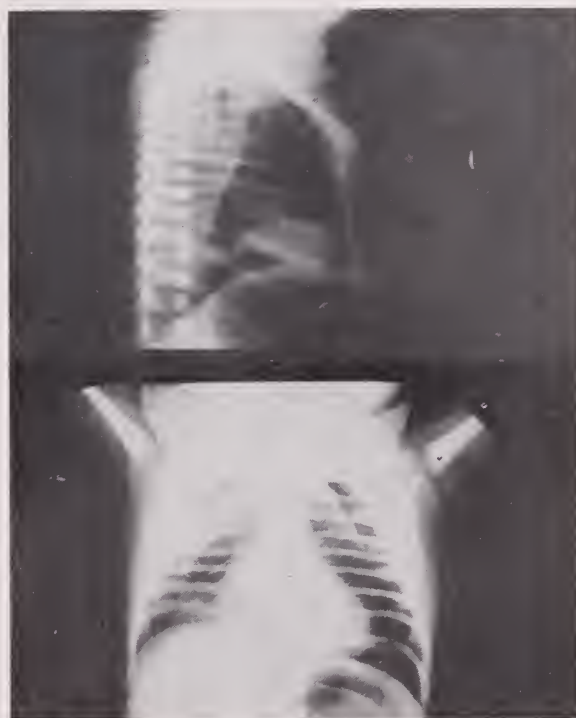


Figure 5. PA projection and lateral demonstrating bilateral pneumothorax and pneumomediastinum. The thymic lobes are easily visualized in the PA projection. Note almost complete obscurement of the cardiac shadow on the lateral view. This baby survived after intracath insertion and underwater drainage.





Figure 6. The mediastinum occupies almost the entire left hemithorax. Trapped air is visualized on the right with the unexpanded right lung. The infant died before a tube could be inserted.

was dusky. A roentgenogram revealed pneumothorax on the right with mediastinal shift to the left (figure 6). An underwater drainage system was requested but the infant expired before the tube could be inserted. The baby received only free flow oxygen.

#### *Case 7*

Five lb. eight oz. white male was delivered LOA, of a para V, gravida VI, with a one minute Apgar score of nine. Thirty-six hours later the infant developed peripheral cyanosis and absent breath sounds on the left. The chest roentgenograms revealed a pneumothorax on the left with the mediastinum shifted to the right (figure 7). A needle thoracentesis was done with minimal resolution. A tube thoracentesis followed and underwater drainage was established. The infant recovered in 24 hours.

#### *Case 8*

Seven lb. two oz white male was delivered of a para I, gravida II, two hours after premature separation of the placenta. The infant was in mild respiratory distress but eight hours later he suddenly became very cyanotic. An Emerson resuscitator was used. Following this the infant breathed spontaneously for a brief period. The right chest did not expand well and the baby was intubated. Free flow oxygen by buccal pressure was administered but the baby developed

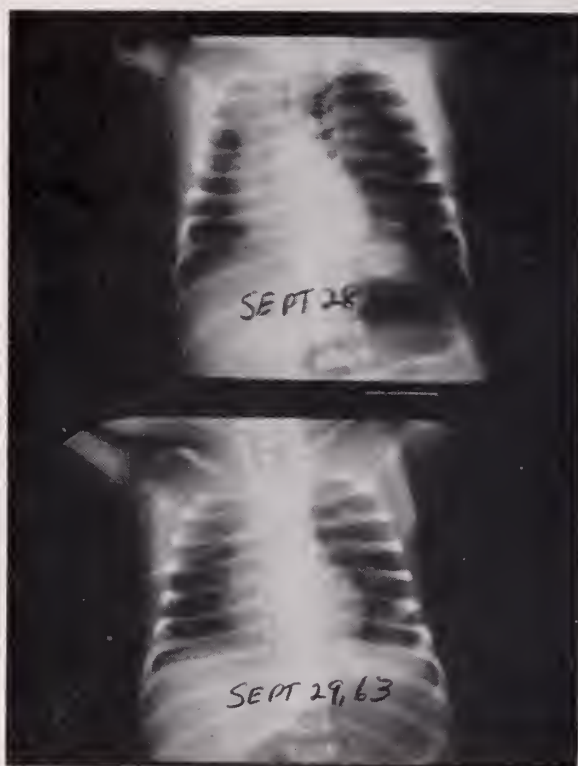


Figure 7. Roentgenograms demonstrating a massive pneumothorax on the left. The mediastinum is shifted to the right hemithorax. In the second film note a linear radio opaque object outside the chest wall; this is the needle of a plastic intracath attached to underwater drainage. The infant recovered.

cardiac arrest. An intracath was placed in the right chest but without avail. Chest roentgenogram at death revealed bilateral pneumothoraces and pneumomediastinum with subcutaneous emphysema (figure 8). Autopsy revealed bullous emphysema with bilateral bronchopneumonia.

#### *Case 9*

Six lb. five oz. white male was delivered of a para IV, gravida V, whose labor progressed in four hours from a cervix of two cm., 70 per cent effacement, to completion of the second stage. The position was LOA. The infant's color was cyanotic 30 minutes after delivery and one and one-half hours later he had see-saw respirations with grunting at terminal expiration. Breath sounds were faint bilaterally. Chest roentgenogram revealed bilateral basilar pneumothoraces. The baby was placed in high humidity air compressed for particle nebulization and within 24 hours he recovered.



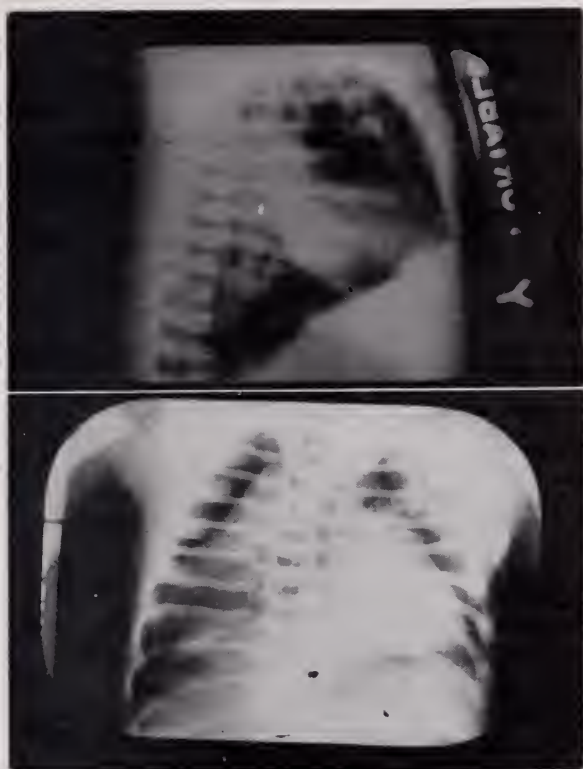


Figure 8. Bilateral pneumothorax and pneumomediastinum following use of a positive pressure apparatus. Autopsy revealed bullous emphysema with bilateral bronchopneumonia.

#### Case 10

Seven lb. two oz. white male was delivered, by low forceps and a hard labor. One hour later the infant developed a respiratory grunt and was quite pale. The attending physician noted decreased breath sounds on

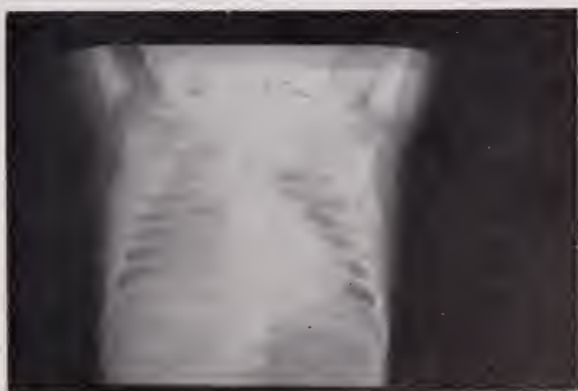


Figure 9. Reveals pneumothorax on the right with shift of mediastinal structures into the left hemithorax. Note the radiolucent area around the left heart border thought to represent a pneumomediastinum. Needle thoracentesis on the right followed by nebulized oxygen resulted in the infant's eventual recovery.

the left and the cardiac apex shifted to the right. Chest roentgenogram revealed a pneumothorax on the left with a mediastinal shift (figure 9). A needle thoracentesis produced 40 cc. of air under pressure. Following this the infant was placed in an isolette with high humidity oxygen, nebulized for inhalation. He recovered without further difficulty.

#### RESULTS

Nine of these ten infants had an abnormal delivery with placenta abruptio, rapid delivery, abnormal presentation, or cesarean section. It should also be observed that six of the infants had low birth weights.

Positive pressure resuscitation was used in only two cases but both of these patients died and the autopsy revealed massive pulmonary bullae throughout both lungs. Seven of the patients had only bulb aspiration of the nasopharynx and free flow oxygen, and of these only two died; one with multiple congenital anomalies.

The one minute Apgar score was done in five patients; three were abnormal. The other two Apgar scores were done by the attending obstetrician.

The average duration of the patients' illness before definitive diagnosis was reached was nine hours, if the two who developed late pneumothorax are included in the study; if not, the average duration was three hours. Of those who died, the average duration of life was three hours, the longest of the group being eight hours. Of the five deaths, needle thoracentesis alone was done in two, needle and tube thoracentesis in one, and nothing in two. The one with both needle and tube thoracentesis died of multiple congenital anomalies including renal agenesis. Underwater drainage therefore was not established early in the course of pneumothorax in any of these infants. Of the six patients who survived, three had a tube thoracentesis and one had a needle thoracentesis.

#### DISCUSSION

It is apparent from the chart (figure 10) that most of the infants had an abnormal delivery with very rapid labor, abnormal presentation or hemorrhage. This, of course,

could lead to aspiration of blood and meconium with subsequent trapping of air and increased transpulmonary pressures. It should be emphasized that two of the infants who died had positive pressure breathing from the Emerson resuscitator. As a consequence, the Emerson resuscitator is no longer available in the delivery rooms and particularly not in the nursery at Hillcrest Medical Center. Although, as one may readily see, the Emerson has not been the entire culprit in this illness; it can serve only to fill the pleural space with more gas under pressure.

The positive pressure apparatus should be supplanted by inhalation of 100 per cent oxygen by mask.<sup>6</sup> Using this method, there is nitrogen washout of arterial blood and propensity of trapped air in the mediastinum and thoracic spaces to be absorbed into the blood.<sup>6</sup> That can only be accomplished by high oxygen tension, such as can be achieved by giving 100 per cent oxygen by mask.

The average duration of life for those who

died was three hours and the average duration of illness in all infants before a roentgenogram was taken was three hours. This simply means that of all those infants in the future who are in risk of death, time is of the essence if they are to be saved. In any infant who has had an abnormal delivery, particularly if the infant is premature, the physician responsible for the baby's care should be available immediately. If possible, the x-ray department should be alerted to stand by at these deliveries with apparatus in the delivery suite.

The one minute Apgar, when done by an objective observer, will help to discover these infants much sooner and perhaps lower morbidity and mortality. This simple evaluation chart was devised to be used by nurses for observation of the patient and reporting to the physician. To be of even more help, a five minute and one hour Apgar should be done in all nurseries.

An intracath underwater drainage system can be set up in the nursery for diagnostic as well as therapeutic management of such cases by the pediatrician until a thor-

Figure 10

No.	Pregnancy Delivery	Birth Weight	Resuscitation	1 Minute Apgar	Duration Clinical Manifest	X-rays Time Interval	Thoracentesis	Disease State	Outcome and Comment	Autopsy
1	Breech 2 hr labor Home delivery	4:1	Free flow oxygen	2	1 hr	1 hr	* N & T	Pulmonary Hypoplasia	Died	Potter's Syndrome
2		4:6	None	Not done	2 hrs	2 hrs	—	Pneumonia	Recovered	O
3	C-section Forceps Placenta	4:12	Free flow oxygen	Not done	35 hrs	36 hrs	* T	Premature	Recovered	O
4	Abruptio Forceps	8:2	Emerson Free flow oxygen	Not done	2 hrs	2 hrs	* N	Bullae	Died	Aspiration IV hemorrhage Bullae
5	2 hr labor Complete	6:3	Free flow oxygen	7	2 hrs	1 hr	* T	—	Recovered	O
6	on Arrival Forceps	2:15	Free flow oxygen Bulb	9	4 hrs	4 hrs	Attempted * T	Premature	Died	O
7	LOA Forceps Abruptio	5:8	Aspiration	9	36 hrs	36 hrs	* T	Unknown	Recovered	O
8	Placenta Spont.	7:2	Emerson Bulb	Not done	8 hrs	At death	* N	Pneumonia	Died	Pneumonia Bullae
9	4 hr labor Forceps	6:8	Aspiration Bulb	Not done	8 hrs	8 hrs	—	Unknown	Recovered	O
10	1 hr labor	7:2	Aspiration	Not done	1 hr	1 hr	* N	Cyst—left	Recovered	O

\* Performed

— Not performed

N Needle aspiration

T Tube and underwater drainage system

acic surgeon can be in attendance. The advantage of establishing immediate underwater drainage is that it allows the physician time to write orders, call the thoracic surgeon, administer drugs, and evaluate further roentgenograms.

#### SUMMARY

Tension pneumothorax is apt to occur in premature and abnormal deliveries such as rapid labors, profound hemorrhage, or abnormal presentations. Positive pressure breathing apparatus also may be incriminated.

Management is based on early and astute observation through Apgar scores, attendance by physicians responsible for the baby

at complicated deliveries, and roentgenograms taken in the delivery suites.

The most effective treatment is early establishment of underwater drainage and tube thoracotomy.

Nitrogen washout with 100 per cent oxygen administered by mask may be of some benefit.

#### ACKNOWLEDGMENT

My appreciation to Sol Wilner, M.D., for technical assistance in the preparation of the roentgenograms. □

*Bibliography available from  
the author on request.*

404 Physicians Building, Tulsa, Oklahoma

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Congenital Aphasia  
Waardenberg's Syndrome  
Pseudohypocacus in Children  
Pathophysiology of Serous Otitis Media  
Role of Allergy in Serous Otitis Media  
Ototoxicity of Drugs

Histopathology of Inner Ear in Infants and  
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# Culposcopic Evaluation of Lesions of the Uterine Cervix

FRANCIS LEE PERRY, M.D.

*A concise article showing the Pap smear  
is not by itself a secure method for  
office diagnosis of cervical cancer.*

THE USE of the binocular culposcope to evaluate lesions of the uterine cervix has become widespread since its introduction by Professor Hinselman in Altona, Germany in 1930. The device allows close-up visualization of the cervical epithelium in magnifications from 5X through 20X. This instrument, however, has never achieved complete acceptance by the majority of clinicians. There are several reasons for this. The culposcopic exam is time consuming; it requires many hours of special training which many training programs do not offer; and the cost of the device itself to the new physician is a deterrent. Another reason is the general acceptance of cytologic techniques as being highly accurate. Figures like 97 per cent accuracy given by Novak<sup>2</sup> and 92 per cent given by Kistner<sup>4</sup> have given a sense of security from the Pap smear method alone.

Textbook statistics state that culposcopic studies locate one preclinical cancer per 140 screened patients.<sup>1</sup> This figure is very closely comparable to those given for cytologic

studies alone.<sup>1, 2, 4</sup> However, there are always patients who are negative on one study and positive on the other. It is this fact that makes the use of both techniques together a more exact screening process. The use of exfoliative studies alone has been shown by Limburg to find 93 per cent of preclinical uterine cervical cancers; the culposcope alone found 91 per cent. Together they found 98 per cent.<sup>3, 5</sup>

It is the contention of most physicians trained in culposcopy, however, that culposcopic visualization of the cervix is an important and equally necessary technique to attain the highest possible early detection of malignant or pre-malignant lesions. The culposcope is certainly not a replacement for exfoliative cytology but an adjunct to it. Frequently it will localize the origin of abnormal cytology. It will locate suspicious lesions which on occasion the improper Pap smear may miss. Mostly it will aid the operator by eliminating unnecessary biopsies of benign lesions and direct the biopsy of suspicious areas. In this way the actual number of biopsies is greatly decreased and the percentage of positive biopsies is increased.

Benign lesions of the cervix, indistinguishable from atypical lesions to the naked eye, are readily identified with the culposcope.<sup>1</sup> Ectopy, ectropion, the area of transformation, and inflammatory erosions on normal epithelium can be identified and treated directly without undue alarm to the patient

and physician, not to mention saving the expense and morbidity of unnecessary biopsies. Likewise, atypical lesions are quickly identified, and in contrast, the operator is directed to more accurate biopsy specimens. It has been shown that the percentage of positive biopsies from the culposcope-directed operator is greater than the random or four quadrant biopsy method. Mosaic, base of leukoplakia and leukoplakia are the visible results of atypical basal cell hyperplasia. Epidermoid carcinoma *in situ*, microcarcinoma, and early Stage I carcinoma are often found masked beneath or in the immediate area of the atypical epithelium.<sup>1</sup>

The purpose of this report is to show how the culposcope was an aid in the routine investigation of the uterine cervix for early detection of pre-clinical malignancy and the prophylactic treatment of benign disease.

MATERIALS AND METHODS

From September 1, 1961 to February 1, 1966 there were 1,400 patients registered in the Cancer Detection Clinic at Hillcrest Medical Center with a total of 2,231 visits. Many women were directed to this Clinic because of abnormal Pap smears or visible cervical lesions at other clinics. Each visit included a Pap smear, culposcopic exam, Schiller's stain and bimanual pelvic exam. Two hundred one atypical culposcopic lesions were biopsied. Definitive treatment of benign lesions was done only after return of cytologic preparations. Patients who had an *in situ* lesion on biopsy and all patients with Class III or IV Pap smears were admitted for D&C and cold knife conization. Patients exhibiting atypical cervical lesions with Class I or II Pap smears and whose biopsies were benign were treated with local methods and referred back to the Clinic for three month follow-up. Records were kept on spe-

cial cancer detection forms. The original was placed in the patient's out-patient folder and one copy kept in a special Cancer Detection Clinic file in numerical order. A separate file card with a summary of visits, findings and therapy was kept in alphabetical order. From this source the following results were determined.

RESULTS

Our study of 1,400 patients revealed 30 pre-clinical malignant lesions or three per 140 patients; five or 16.6 per cent were found by culposcope with normal Pap smear, and six or 20 per cent by Pap smear alone; 19 were evident by both techniques on the first examination.

The 201 lesions exhibiting culposcopic abnormalities when first visualized and biopsied revealed 24 malignancies on the original examination. The pathological distribution of all biopsies was:

a) Chronic cervicitis .....	94
b) Chronic cervicitis with atypical basal cell hyperplasia .....	48
c) Atypical basal cell hyperplasia .....	38
*d) Epidermoid carcinoma <i>in situ</i> .....	21
*e) Epidermoid carcinoma, Stage I .....	1
*f) Epidermoid carcinoma, Stage III .....	1

Cytologic studies on the first examination gave 52 Class III smears and 14 Class IV smears. The final diagnoses after biopsy and conization revealed 21 with epidermoid carcinoma *in situ* and three with Stage I carcinoma. The actual distribution of all smears was:

A. Class III Smears:	
a) Chronic cervicitis .....	17
b) Chronic cervicitis and atypical basal cell hyperplasia .....	12
c) Atypical basal cell hyperplasia .....	9
*d) Epidermoid carcinoma <i>in situ</i> .....	12
e) Epidermoid carcinoma, Stage I .....	2
B. Class IV Smears:	
a) Chronic cervicitis .....	1
b) Chronic cervicitis and atypical basal cell hyperplasia .....	3
c) Atypical basal cell hyperplasia .....	0
d) Epidermoid carcinoma <i>in situ</i> .....	9
e) Epidermoid carcinoma invasive, Stage I .....	1

Table I

Cancer Detection Clinic Report  
Hillcrest Medical Center

September 1, 1961 to February 1, 1966

Total number patients .....	1,400
Total number visits .....	2,231
Total number Pap Smears .....	2,231
Total number Biopsies .....	201

*Francis Lee Perry, M.D., who graduated from the University of Vermont College of Medicine in 1957, limits his practice to his specialty of obstetrics and gynecology. He is presently surgeon of the Oklahoma Chapter of the Reserve Officers Association and Commander of the 937th USAF Dispensary at Tinker Air Force Base in Oklahoma City.*

Class Distribution of Pap Smears	
Class I	1,524
Class II	637
Class III	52
Class IV	14

Table II  
Pathological Diagnoses of Biopsies

Chronic Cervicitis		94
Age 17-25	44	Pap Class I 67
26-35	28	Class II 20
35-45	14	Class III 7
46+	8	
Chronic Cervicitis + Atypical Basal Cell Hyperplasia		48
Age 17-24	22	Pap Class I 21
26-35	18	Class II 17
36-45	5	Class III 1
46+	3	
Atypical Basal Cell Hyperplasia		38
Age 17-25	21	Pap Class I 18
26-35	10	Class II 12
36-45	5	Class III 7
46+	2	

Table III  
Age Distribution of Abnormal Pap Smears

Class III Smears		52
Age 16-25	26	
26-35	18	
36-45	2	
46+	6	
Class IV Smears		14
Age 21	1	
26-35	11	
36-45	0	
46+	2	

Table IV

Pathological Diagnoses of Conizations after		52
Class III Smears		
Chronic Cervicitis	17	
Chronic Cervicitis + Atypical		
Basal Cell Hyperplasia	12	
Atypical Basal Cell Hyperplasia	9	
Epidermoid Carcinoma <i>in situ</i>	12	
Epidermoid Carcinoma Stage I	2	

Table V Pathological Diagnoses of Conizations		14
after Class IV Smears		
Chronic Cervicitis	1	
Chronic Cervicitis + Atypical		
Basal Cell Hyperplasia	3	
Epidermoid Carcinoma <i>in situ</i>	9	
Epidermoid Carcinoma Stage I	1	

SUMMARY

Twenty-four pre-malignant or malignant lesions were located by culposcopic investigation alone, and 25 such lesions were indicated by cytologic study. A graphic presentation follows:

		Pap Smear &	
	Pap Smear	Culposcopy	Culposcopy
<i>In situ</i>	4	17	4
Invasive	2	2	1
	—	—	—
Total	6	19	5

The total malignancies found were 30 in 1,400 patients or 1:47. This is considerably higher than is reported for the general population because many were referred by other physicians or clinics because of suspicious examinations or Pap smears. Eighty per cent of these lesions were identified on initial culposcopy. Eighty-three per cent were indicated by original Pap smears. Five or 16.6 per cent were missed by original Pap smears and six or 20 per cent were not visible on the first culposcopy.

The combination of the two methods brings an improvement in early detection and also aids in the early restoration of many benign cervical conditions to a normal epithelium. This is a known important part of cancer prophylaxis. The culposcopic and cytologic methods should be considered as complementary and not competitive.

*Bibliography available from the author on request.*

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**Influenza virus**

*Protein shell enclosing  
the core of nucleic  
acid (RNA)—artist's  
representation*

**The incidence of influenza A<sub>2</sub>.** In this country, where influenza is one of the leading causes of morbidity, influenza A<sub>2</sub> (Asian) continues to be a serious medical problem. In 1957 influenza A<sub>2</sub> was responsible for approximately 40,000 excess deaths in a three-month period. Since that year the most prevalent influenza virus has been A<sub>2</sub> (Asian).

**What is Symmetrel®?** "Symmetrel" (amantadine HCl) is a new synthetic chemical which acts as a molecular barrier to virus penetration. It provides for the first time specific oral medication for the prevention of respiratory infections caused by influenza A<sub>2</sub> (Asian) viruses—an entirely new approach in preventive medicine.

*For prescribing information, see last page of this presentation*

## What Symmetrel® (amantadine HCl) means to you

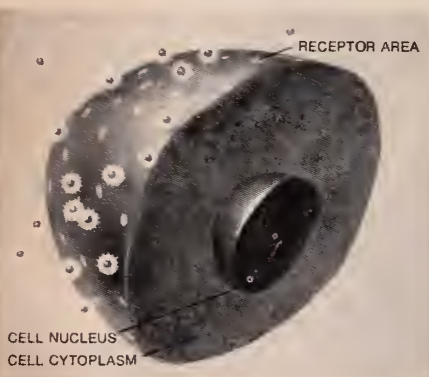
- ... the first and only oral chemical agent to prevent influenza A<sub>2</sub> (Asian).
- ... not a vaccine or antibiotic, but a new synthetic chemical unrelated to any other chemotherapeutic agent.
- ... unique mode of action: prevents virus penetration of the host cell without affecting vital cell functions.
- ... specifically active against all influenza A<sub>2</sub> viruses tested to date.
- ... not indicated for the prevention of influenzal or respiratory illness other than influenza A<sub>2</sub> or for the treatment of established disease.
- ... does not interfere with normal antibody response; acts in concert with pre-existing antibody.

## What Symmetrel® means to your patient

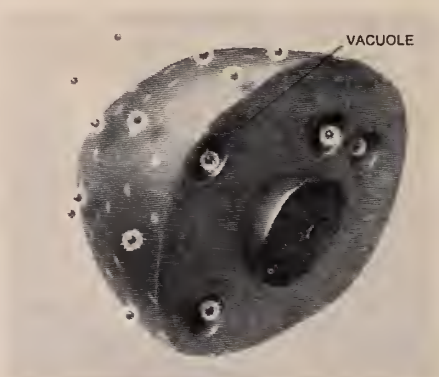
- ... possible immediate influenza A<sub>2</sub> protection when taken following suspected contact.
- ... may be particularly useful during outbreaks or epidemics and for high-risk patients in whom the occurrence of influenza A<sub>2</sub> is especially hazardous.
- ... a high degree of safety in clinical use.
- ... simple once daily or b.i.d. dosage.

## The mode of action of Symmetrel®

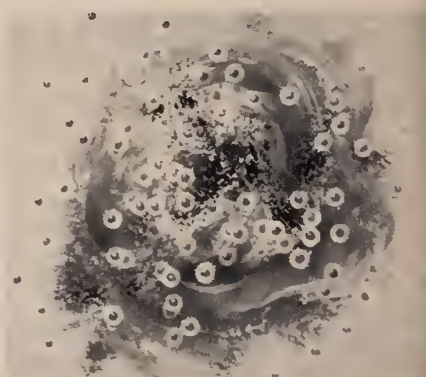
### How the influenza virus invades and destroys the untreated cell



**1** Viruses outside the cell attach themselves to specific cell receptor areas

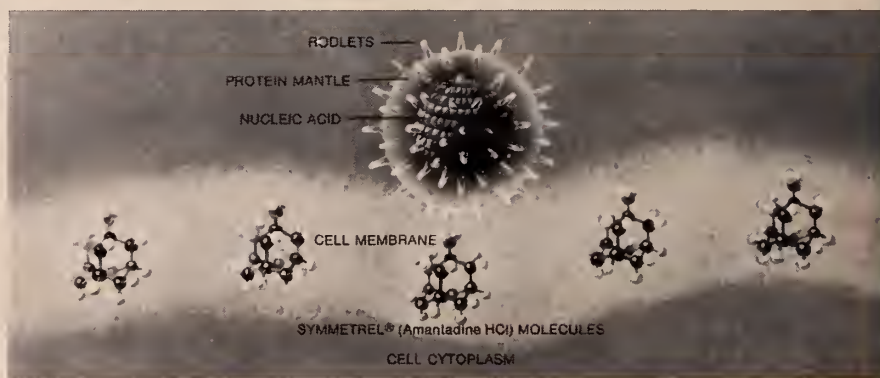
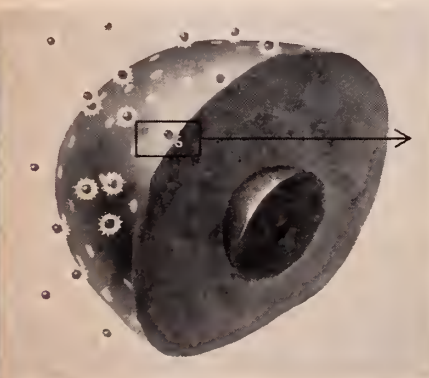


**2** The virus is incorporated into a vacuole within the cell. From this vacuole the virus nucleic acid passes into the cell cytoplasm



**3** The virus nucleic acid then directs the cell to produce both new virus nucleic acid and virus protein coat material which aggregate to form new virus particles. This process leads to the release of new virus particles and eventual destruction of the cell

### How Symmetrel® (Amantadine HCl) prevents virus invasion<sup>1</sup>



Our current knowledge leads us to believe "Symmetrel" acts as a molecular barrier to influenza virus penetration. Shown here in a greatly enlarged section, "Symmetrel"—located at the cellular membrane—effectively prevents (blocks) virus penetration. Thus, "Symmetrel" does not directly destroy the virus particle but acting as a virostat prevents the cycle of virus penetration, virus replication, and cell destruction that is characteristic of virus invasion of animal cells (tissue). *Artist's conception based on current scientific knowledge.*

<sup>1</sup> "Mode of Action of the Antiviral Activity of Amantadine in Tissue Culture", Hoffmann, C. E.; Neumayer, E. M.; Haff, R. F.; and Goldsby, R. A., *Journal of Bacteriology* 90,623 (1965).



**Safety of Symmetrel® Confirmed.** When used as indicated, is generally well tolerated. No kidney, liver, bone marrow, or hematological disturbances have been observed.

## Prescribing Information

**Indications:** "Symmetrel" is indicated for the prevention (prophylaxis) of influenza A<sub>2</sub> in persons of all age groups. Early use is recommended, preferably before or as soon as possible after actual or suspected contact with individuals suffering from influenza A<sub>2</sub>. "Symmetrel" should especially be considered for high influenza-risk patient groups such as those suffering from chronic debilitating diseases and elderly persons.

**Contraindications:** Not indicated for the prevention of influenzal or respiratory illness other than influenza A<sub>2</sub> or for the treatment of established disease.

**Warnings:** Administration to patients with central nervous system disease, particularly geriatric patients with cerebral arteriosclerosis, and patients with a history of epilepsy or other "seizures," requires strict observation for possible untoward effects (see Adverse Reactions). Patients taking psychopharmacologic drugs, central nervous system stimulants, or alcoholic beverages should be observed for possible evidence of intolerance. Those patients who experience central nervous system effects or blurring of vision should be cautioned against driving or working in situations where alertness is important.

No teratogenic effects have been seen in reproductive studies in rats and rabbits. Studies in pregnant women have, however, not been done and use of this drug in women of childbearing age should be undertaken only after weighing the possible risks to the fetus against benefit to the pregnant patient. It should not be administered to nursing mothers since it is not known whether the drug is secreted in the milk.

**Precautions:** Ineffective against bacterial infections. Patients should be observed for idiosyncratic reactions as with all new drugs. Geriatric patients with pre-existing serious medical illnesses with mental or physical deterioration should be followed carefully medically while taking "Symmetrel." (See Adverse Reactions.)

**Adverse Reactions:** With higher than indicated doses manifestations of central nervous system effects such

as nervousness, insomnia, dizziness, lightheadedness, drunken feeling, slurred speech, ataxia, inability to concentrate and some psychic reactions including depression and feelings of detachment were seen. Occasional blurred vision was reported at higher doses. Some of the milder and less pronounced symptoms above have been reported in a small number of patients taking the recommended dosage of 200 mg per day. Those were mostly transient and disappeared with continued administration of the drug. Some geriatric patients developed paranoid or hallucinatory behavior and became unmanageable while taking 200 mg daily. Medically unselected seriously deteriorated geriatric patients showed poor clinical tolerance after several weeks of daily dosing with 200 mg per day. One elderly patient with a history of prior cerebrovascular accident developed visual hallucinations and grand-mal convulsions while on drug at 800 mg per day. Some cases of dry mouth, gastrointestinal upset and skin rash and rarely, tremors, anorexia, pollakiuria, and nocturia have been also reported.

**Safety:** When used as indicated, is generally well tolerated. No kidney, liver, bone marrow, or hematological disturbances have been observed.

**Dosage:** *Adults:* Two 100 mg capsules (or 4 teaspoonfuls of syrup) as a single daily dose or the daily dose may be divided into one capsule of 100 mg (or 2 teaspoonfuls of syrup) twice a day.

*Children:* 1 yr.—9 yrs. of age: Calculate total daily dose on the basis of 2 mg to 4 mg per pound of body weight per day (but not to exceed 150 mg per day). Daily dose, given as the syrup, should be given in 2 or 3 equal portions.

9 yrs.—12 yrs. of age: Total daily dose 200 mg given as one capsule of 100 mg (or 2 teaspoonfuls of syrup) twice a day.

**How Supplied:** *Capsules:* Bottles of 100. Each red, gelatin capsule contains 100 mg amantadine HCl.

*Syrup:* Bottles of 1 pint. Each 5 ml (1 teaspoonful) contains 50 mg amantadine HCl.



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- Malabsorption syndrome
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- Gastroenteritis and colitis

**Dosage:** For correct therapeutic effect—Rx correct therapeutic dosage. The recommended initial daily dosages, given in divided doses, until diarrhea is controlled, are:

Children: Age	Total Daily Lomotil Dosage	Lomotil Liquid Dosage (Each teaspoonful [4 cc.] contains 2 mg. of diphenoxylate HCl)
3-6 months	3 mg. 	½ tsp. 3 times daily
6-12 months	4 mg. 	½ tsp. 4 times daily
1-2 years . . .	5 mg. 	½ tsp. 5 times daily
2-5 years . . .	6 mg. 	1 tsp. 3 times daily
5-8 years . . .	8 mg. 	1 tsp. 4 times daily
8-12 years	10 mg. 	1 tsp. 5 times daily

**Adults:** 20 mg. (2 tsp. 5 times daily or 2 tablets 4 times daily) Based on 4 cc. per teaspoonful. Maintenance dosage may be as low as one-fourth the initial daily dose.

**Precautions:** Lomotil, brand of diphenoxylate hydrochloride with atropine sulfate, is a Federally exempt narcotic preparation of very low addictive potential. Recommended dosages should not be exceeded. Lomotil should be kept out of reach of children since accidental overdosage may cause severe respiratory depression. Lomotil should be used with caution in patients with impaired liver function and in patients taking addicting drugs or barbiturates. The subtherapeutic amount of atropine is added to discourage deliberate overdosage.

**Side Effects:** Side effects are relatively uncommon but among those reported are gastrointestinal irritation, sedation, dizziness, cutaneous manifestations, restlessness, insomnia, numbness of extremities, headache, blurring of vision, swelling of the gums, euphoria, depression and general malaise.







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**Warning**—In renal impairment, usual doses may lead to excessive systemic accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated. If therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort.

**Precautions and Side Effects**—Overgrowth of nonsusceptible organisms may occur. Constant observation is essen-

tial. If new infections appear, appropriate measures should be taken. Use of demethylchlortetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect occurs mostly during long-term use but has also been observed in short treatment courses. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment. Side reactions include glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis and dermatitis. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Anaphylactoid reactions have been reported.

**Average Adult Daily Dosage:** 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products.

**Capsules:** 150 mg; **Tablets:** film coated, 300 mg, 150 mg, and 75 mg of demethylchlortetracycline HCl.

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- quickly relieves congested nose
- action is gentle, yet prolonged
- side effects are minimal

**INDICATION:** Nasal congestion. **CONTRAINDICATION:** Do not use in patients sensitive to small doses of sympathomimetic substances. **WARNINGS:** Prolonged or excessive use may cause rebound congestion. Use cautiously in patients with hyperthyroidism, coronary artery disease, hypertension, and diabetes. **CAUTION:** Do not shake Nasal Spray. Rinse Nasal Solution dropper or Nasal Spray tip in hot water after each use. No more than one person should use the same dropper bottle or nasal spray.

**SIDE EFFECTS:** Occasional local reactions: rebound congestion, slight burning or stinging, sneezing, dry nose. Occasional systemic effects: headache, drowsiness, lightheadedness, insomnia, palpitations. Overdosage in young children may produce profound sedation. **DOSAGE: Adults:** *Nasal Solution*—2 or 3 drops in each nostril every 4 to 6 hours. *Nasal Spray*—Squeeze rapidly once or twice in each nostril every 4 to 6 hours. **Children under 12:** *Pediatric Nasal Solution*—2 or 3 drops in each nostril every 4 to 6 hours. One drop should be used

in infants under 6 months. *Pediatric Nasal Spray*—Squeeze rapidly once in each nostril holding tube upright; repeat every 4 hours as necessary. **SUPPLIED:** OTRIVIN® hydrochloride (xylometazoline hydrochloride CIBA) *Nasal Solution*, 0.1%; dropper bottles of 1 fluidounce, bottles of 1 pint. *Nasal Spray*, 0.1%; plastic squeeze tubes of 15 ml. *Pediatric Nasal Solution*, 0.05%; dropper bottles of 1 fluidounce. *Pediatric Nasal Spray*, 0.05%; plastic squeeze tubes of 15 ml. *Nasal Solutions* contain either 0.1% or 0.05% xylometazoline hydrochloride, triethanolamine, hydrochloric acid, sodium chloride, and phenylmercuric acetate 1:50,000 as preservative in water. *Nasal Sprays* contain either 0.1% or 0.05% xylometazoline hydrochloride, potassium phosphate monobasic, potassium chloride, sodium phosphate dibasic, sodium chloride, and benzalkonium chloride 1:5000 as preservative in water. *Consult complete literature before prescribing.*

CIBA Pharmaceutical Company, Summit, N. J.

CIBA

# Desquamative Interstitial Pneumonia:

## A Case Report

SOL WILNER, M.D.  
DALE E. VAN WORMER, M.D.

*Desquamative interstitial pneumonia as a specific entity has recently been separated from the diffuse pulmonary fibrosis group. The importance of proper diagnosis and therapy is emphasized in this case report.*

**D**IFFUSE pulmonary diseases have been variously classified, and frequently lumped into the broad wastebasket type classification of diffuse interstitial fibrosis. During the past several years some entities have been removed from this broad category and listed as specific clinicopathologic entities. Most of these have a definite clinical-radiological-pathological picture but often show non-specific features when the findings provided by the individual disciplines are isolated. The most recent of these has been given the descriptive term of desquamative interstitial pneumonia. This was first described at a meeting of the American Association of Pathologists and Bacteriologists in May, 1962 and published in November, 1964.<sup>1</sup> Approximately 24 cases have been described and the importance of the delineation of this

particular disease has been shown by the clinical course followed by most of these patients.<sup>1, 2</sup> Presentation of another case is justified in order to emphasize the importance of establishing a specific diagnosis whenever possible in diffuse pulmonary disease.

**Case History:** A 42-year-old woman was admitted to the hospital for the first time January 25, 1963. Her chief complaints were weakness and shortness of breath. Three weeks before admission she developed a temperature elevation of 99° to 100° F which was associated with wheezing, coughing and chest pain in spite of antibiotic treatment. She continued to cough, have shortness of breath and exertional dyspnea. Hemoptysis was not observed. She stated that she had used hair spray daily for approximately two years. Physical examination revealed inspiratory and expiratory râles and rhonchi bilaterally. Laboratory data at that time showed a normal white blood cell count and differential, a hemoglobin of 13.4 grams, a hematocrit of 42 per cent and a sedimentation rate of 24 mm. per hour. The blood urea nitrogen, fasting blood sugar and urinalysis were within normal limits. A cold agglutinin titer was 1:4. A sputum culture showed normal flora. The chest roentgenogram revealed minimal bilateral basilar infiltrative changes in both lung bases. An electrocardiogram was within normal limits; the absence of evidence of





Figure 1. Bilateral triangular fine haziness radiating from hili to the lung bases. Costophrenic angles clear. Fine basilar linear infiltrations present.



Figure 2. No appreciable change in six days.

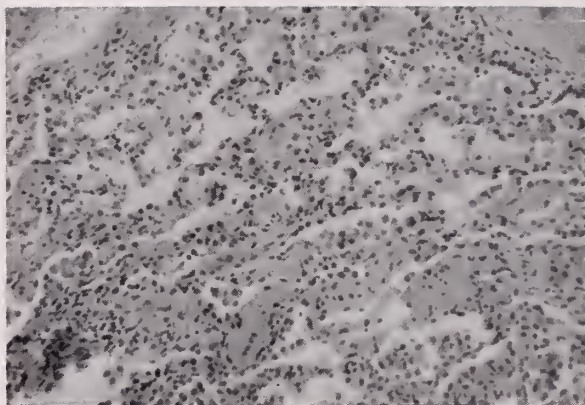


Figure 3. A low power view of the biopsy of the left lower lobe (3-8-63). Numerous large mononuclear cells are present in the alveoli. The alveolar walls are not significantly thickened and there is no evidence of necrosis or hyaline membrane formation. (H & E enlarged approximately 2 X from 100X.)

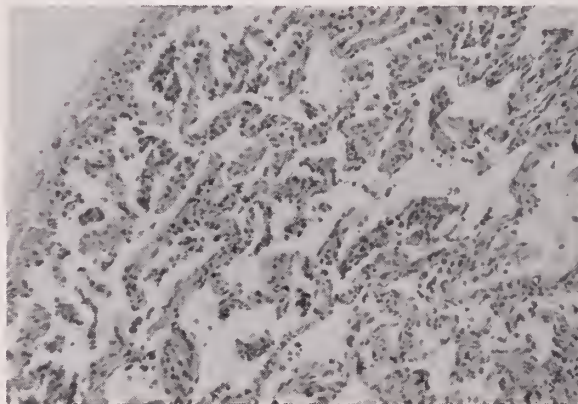


Figure 4. Low power view of the pleural surface of biopsy number 1. There is no evidence of pleural thickening and little evidence of septal thickening. (H & E enlarged approximately 2X from 100X.)

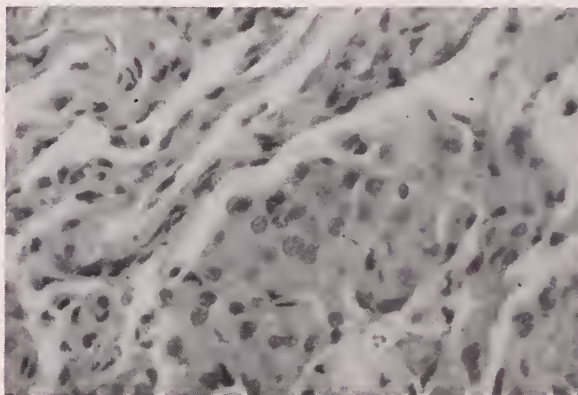


Figure 5. High power view of biopsy number one demonstrating the intra-alveolar mass of large mononuclear cells. Many of these cells contained brown staining granules which were negative for iron but stained positive with the PAS stain. (H & E X 450.)

right ventricular hypertrophy was noted specifically.

Her second admission was on February 28, 1963, for evaluation of a persistent cough, shortness of breath, low grade fever and malaise. The cough was dry, not productive and was associated with pain in the left subscapular region and dyspnea on exertion. One week following her previous hospitalization her low grade fever had returned and she observed a five pound weight gain in spite of the persistent non-productive cough and constant aching in the left mid-anterior region of the chest. During the interval at home, skin tests were done. The intermediate strength PPD was negative, a coccidioidin test was weakly reactive and the histoplasmin test was strongly positive. She denied contact with individuals known to have infectious pulmonary disease, any contact with chickens or their place of habitation or any contact with pigeons, parakeets or other pet birds. Physical examination revealed fine crepitant and coarse râles during inspiration over both lung bases posteriorly and laterally. The remaining examination was within normal limits. At this time the laboratory studies showed a hemoglobin of 14.9 grams and white blood cell count of 7,000 with a normal differential. The serology was negative and a urinalysis was normal. Bacteriological examination of bronchial washings and several sputum specimens revealed normal flora. Specific smears and cultures were negative for acid fast bacilli and fungi. Chest roentgenographs revealed poorly defined linear infiltrates in both lower lung fields (figures 1 and 2). A scalene fat pad biopsy was reported normal. A biopsy of the lower lobe of the left lung was done on March 8th. The histological features were alveolar septal cell hyperplasia and a mild to moderate degree of interstitial fibrosis.<sup>3, 4, 5</sup> Her postoperative course was uneventful and she was dismissed to be followed as an outpatient.

Her third admission was approximately one year later, January 24th, 1964; at that time she was having increasing dyspnea. The possibility of bronchiectasis and/or atelectasis of the right middle lower lobe was considered so bronchoscopy and bronchograms were done January 25th. Bronchoscopy revealed no abnormality and the bronchogram



Figure 6. Bronchogram revealed loss of volume of both lower lobes, minimal bronchiectatic changes of lingula as well as both lower lobes and compensatory emphysema of both upper lobes.

(figure 6) revealed loss of volume in both lower lobes with minimal bronchiectatic changes. In addition, compensatory emphysema of both upper lobes was seen. Prior to bronchoscopy she had an episode of hemoptysis. Pulmonary function tests toward the end of January revealed a maximum breathing capacity of 69 per cent in the first test, 72 per cent in the second and 68 per

---

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Figure 7. Bilateral basilar infiltrations with loss of volume of both lower lobes and compensatory emphysema of both upper lobes.

cent in the third test. Spirometric residual volume data revealed a breathing rate of 14 per minute, 642 ml. of tidal air, an inspiratory capacity of 550 ml., an expiratory reserve volume of 720 ml. and a vital capacity of 1270 ml. She was discharged to be readmitted for decortication and re-expansion of the right middle lobe.

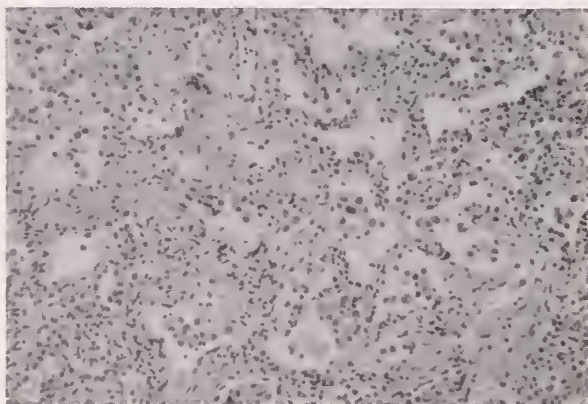


Figure 8. Low power view of biopsy number 2 (Right lower lobe, Feb. 1964). The septa are definitely thicker than before (cf. figure 3). (H & E enlarged approximately 2 X from 100X.)

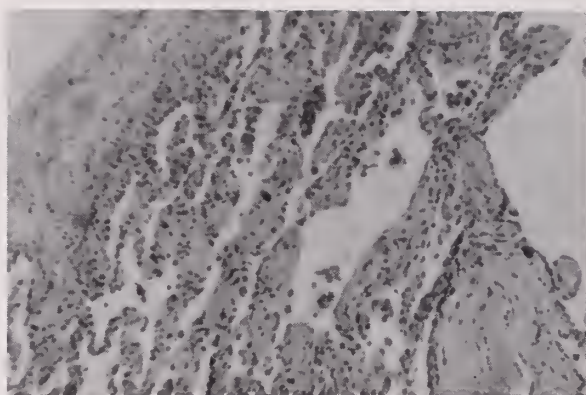


Figure 9. Biopsy number two. The pleura and alveolar septa are considerably thicker (cf. figure 4). (H & E enlarged approximately 2 X from 100X.)

Her fourth admission was February 21st, 1964. At that time her symptoms and physical findings were essentially unchanged. A right thoracotomy was done and the right middle and lower lobes were found folded over themselves and compressed to about one-third of their usual size. The right upper lobe was somewhat more dense to palpation but was fully expanded to fill the chest left vacant by atelectasis in the lower two lobes. There was mild thickening of the pleura but this was not considered significant. A few adhesions were present along the diaphragmatic surface. Adhesions over the middle and lower lobes were freed by dissection and the visceral pleura was partially removed to allow expansion of the middle and lower lobes by the anesthetist. There was a hard fibrotic sensation when the two lower lobes were palpated, and it was impossible to expand them fully. A wedge resection of the lower lobe was performed for

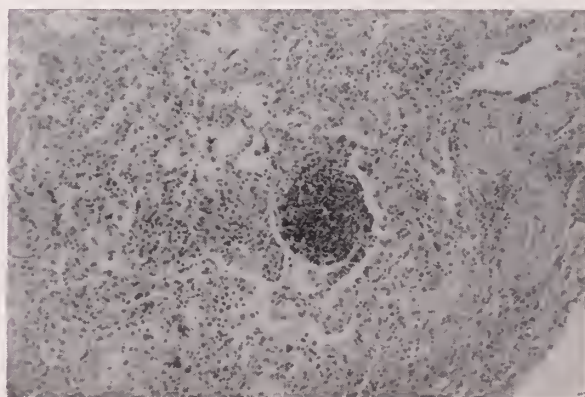


Figure 10. A lymphoid focus present in the pulmonary parenchyma of biopsy number two (H & E X 100).



TABLE

Clinical Features	Roentgenography
Dyspnea	Triangular haziness at both bases, sparing the costophrenic angles
Non-productive cough	Increased basilar bronchovascular markings
Exertional cyanosis	Progressive loss of volume of lower lobes
Fine dry basal rales	Sparing of upper lobes

**Pathology**

Extensive desquamation of masses of alveolar cells  
 Mitotic figures in the desquamated cells  
 Brown, granular PAS positive material in cytoplasm of alveolar cells (iron negative)  
 Presence of multinucleated alveolar cells (giant cells)  
 Pleura slightly thickened and edematous  
 Thickening of arteries and arterioles  
 Presence of lymphoid follicles in all but earliest stage

histologic examination. Her postoperative course was uneventful and she was dismissed on February 20th, with her symptomatology essentially unchanged. A chest roentgenogram (figure 7) before surgery revealed changes similar to those seen previously. Histologic examination of the lung biopsy revealed chronic diffuse fibrosing interstitial pneumonitis with considerable alveolar septal cell proliferation (figures 8, 9, 10, 11).

**DISCUSSION**

Initial examinations of the pulmonary biopsies and the chest roentgenograms in this case revealed a nondescript picture which was impossible to identify with any known pathological process. Because of the severity of septal cell hyperplasia and the persistence

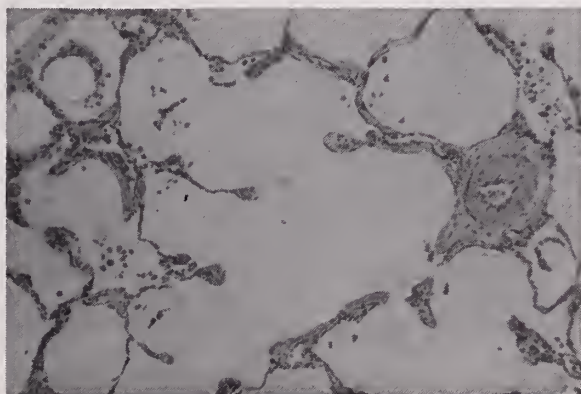


Figure 11. Biopsy number two. Microscopic changes of emphysema. There is clubbing of alveolar septa and increased fibrous tissue in the alveolar walls (H & E X 100).

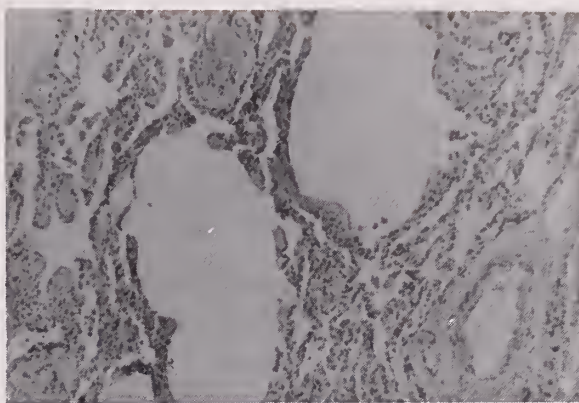


Figure 12. Biopsy number two. Early changes of honeycombing of the pulmonary parenchyma. (H & E X 100.)

of infiltrative changes in the lower portions of both lungs with apparent sparing of the upper portions, the slides were studied and reviewed several times. The specific diagnosis was not reached however, until recently when an article appeared which described the process of desquamative interstitial pneumonia.<sup>2</sup> The description of the x-ray and pathological findings seemed to fit the present case and further review resulted in a diagnosis of desquamative interstitial pneumonia. The clinical, roentgenographic and pathological features of this apparent entity are presented in the accompanying table.

Because of the apparently benign nature of this disease and its response to treatment, it should be considered early in the differential diagnosis of diffuse pulmonary disease. A history of occupational or other exposure to potentially damaging agents (such as hair spray) may lead to a mistaken diagnosis. Thesauriosis was considered in this case prior to lung biopsy. The roentgenographic appearance and the clinical findings eliminate many of the diffuse pulmonary diseases when a differential diagnosis is considered. Other entities to be considered, however, are other forms of interstitial pneumonia, alveolar proteinosis, eosinophilic granuloma and primary pulmonary hemosiderosis. Many special diagnostic procedures do not help, and open lung biopsy is mandatory. This should be performed early in order to initiate steroid therapy. The use of large doses of corticosteroids results in great improvement in the symptoms and physical findings in most patients. The literature describes decreased dyspnea,

improvement of appetite, weight gain, disappearance of exertional cyanosis, increased exercise tolerance and decreased clubbing of the fingers. These changes occur although the roentgenographic findings remain unchanged.<sup>1,2</sup> In the reported cases follow-up biopsies were done in only a few instances. The only serial studies reported show progression of the disease from that of a desquamative interstitial pneumonia to irregular fibrosis and coarse honeycombing of the lung.<sup>1</sup> The favorable response to corticosteroids is especially important in view of these findings, since early and effective therapy may prevent progression of the disease to an irreversible and potentially fatal form. The progression in the pathological process found in the lung biopsies of this patient obtained after a one year interval correlates well with the obvious loss of lung volume seen in the roentgenographs. This re-emphasizes the progressive nature of the disease and the necessity of early diagnosis and therapy.

The clinical, roentgenological and pathological changes of a patient with desquamative interstitial pneumonia are described. The importance of early diagnosis and therapy are emphasized. Dyspnea and non-productive cough were the predominant symptoms and physical findings were limited to inspiratory crackling râles. Chest roentgenograms revealed infiltrative changes in both bases which progressed over a period of observation of approximately one year and were associated with pronounced loss of lung volume. Lung biopsies obtained at approximately one year intervals revealed progression in the degree of fibrosis and other irreversible changes, thus providing further documentation of the progressive nature of this entity. □

*Bibliography available from  
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## Febrile Disease in a Young Man Terminating in Death Within One Week

LEO LOWBEER, M.D.

*This paper deals with a relatively common contagious disease, curable by antibiotics, if diagnosed, and provides suggestions for a life-saving diagnosis and a literature review.*

**CASE HISTORY:** A 21-year-old white male became acutely ill on a farm in Okmulgee, Oklahoma (50 miles from Tulsa) one week prior to admission to the hospital, with fever, malaise and a mass in the left side of the neck beneath the mandibular angle which was considered to be parotitis (mumps?). He was given penicillin orally for three to four days by his private physician but the fever and malaise persisted. After the penicillin had been discontinued for two days, a skin eruption developed. His temperature remained elevated to 102° to 103° and a week after the onset it rose to 104°. He became progressively cyanotic and was brought to the emergency room of this hospital. While enroute, he had a convulsive seizure and on admission he was in cardiac arrest without respiration. He responded to intracardiac epinephrine and intravenous nasopressors but for a second time he developed cardiac and respiratory arrest requiring mouth-to-mouth respiration as well as repeated epinephrine and calcium chloride

injections. Because of persistent cyanosis, a tracheotomy was performed with resulting copious amounts of frothy liquid. Blood-urine-gastric and sputum cultures were obtained and the patient was then started on intravenous Chloromycetin.

On physical examination the temperature was 104, the pulse 110 and the blood pressure 80/50. The pupils were found to be fixed and dilated and there was pronounced cyanosis. No papilledema was found on fundoscopic examination. A four to five cm. confluent mass, ovoid and firm, was found in the left neck region. Chest examination revealed bronchophony and râles on the right side as well as on the left side throughout both lung fields. The heart tones were distant and poor in quality without murmurs. The abdomen was not enlarged; it was soft and no organs or tumors were palpable. There was no edema and no jaundice. There was a diffuse erythematous macular rash over the trunk and extremities that was confluent in most areas.

A portable roentgenogram of the chest showed what was interpreted as profound parenchymal edema obliterating the lower two-thirds of the right lung field and the lower half of the left lung field with blotchy areas of consolidation.

The white blood cell count was 7,900 per cubic mm. with 50 per cent band forms, 39 per cent segmented neutrophils, 10 per cent lymphocytes, 1 per cent monocytes and toxic granulation. The hematocrit was 49 per cent and the hemoglobin 17 grams. Co<sub>2</sub> was 15,



plasma chlorides 94, sodium 133 and potassium 5.4, all mEq/l.

The patient remained cyanotic and dyspneic with persistent râles over the chest and copious amounts of frothy fluid exuding from the tracheostomy. He *expired three hours after admission* (after a one week illness).

Two weeks later there was no growth in the blood cultures. Urine cultures remained sterile also. Sputum cultures yielded alpha hemolytic streptococci and Mannitol negative, coagulase positive staphylococci in small numbers. Gastric washings yielded alpha hemolytic streptococci and yeast.

*Post Mortem Examination:* (after arterial embalming) revealed the following pertinent gross findings:

1. Macular rash of the face;
2. Marked cerebral edema (1450 grams);
3. Marked left sided periparotid swelling centered around a 5 cm. mass of discrete and fused small and large lymph nodes showing extensive hemorrhagic necrosis (figure 1). The left parotid gland was normal. Cervical nodes on the right side were slightly enlarged, discrete, and without necrosis.
4. Tracheostomy opening; tracheobronchial mucosa pale;
5. Enormous bilateral indurated pulmonary edema (right lung 1,020 grams; left lung 850 grams) with complete atelecatsis but no gross signs of pneumonic infiltration. Hemorrhagic left pleural exudate with a specific gravity of 1.026.

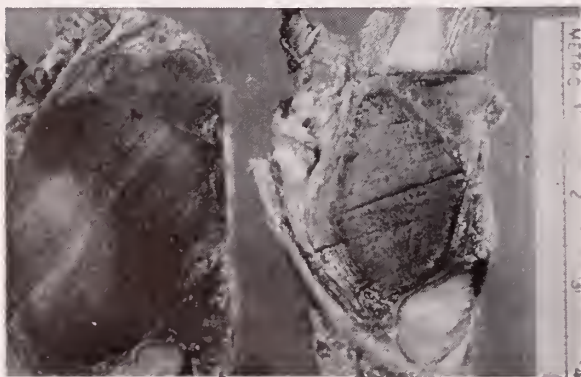


Figure 1. Enlarged cervical lymphnodes, left side, ("bubo"), with hemorrhagic necrosis. X 1.75.

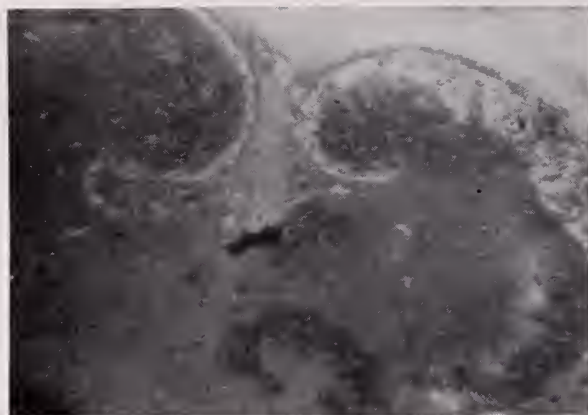


Figure 2. Enlarged cervical lymphnodes, left side, ("bubo"). Geographic foci of coagulative necrosis. X 35.

6. Marked splenic enlargement (390 grams) with dry, moderately congested, soft cut surface;
7. Lipid depletion and atrophy of the adrenal cortex;
8. Red (hemopoietic femur) femur bone marrow.

*Pertinent Microscopic Findings of Post Mortem Examination:*

*Cervical lymph nodes, left side:* Extensive geographic areas of coagulative necrosis (figure 2), a process starting with marked proliferation of reticulo-endothelial cells (figure 3) and progressing to necrobiosis and necrosis involving these cells as well as pre-existing cells of the lymph nodes and the tissue around them (figure 4). No granulomatous nodules, giant cells, acid fast bacilli, fungi or bacteria were demonstrable; vascular changes were absent.

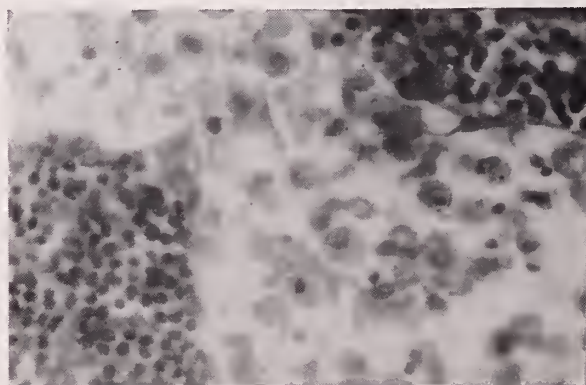


Figure 3. Enlarged cervical lymphnodes, left side, ("bubo"). Marked proliferation of reticulo-endothelial cells. X 450.

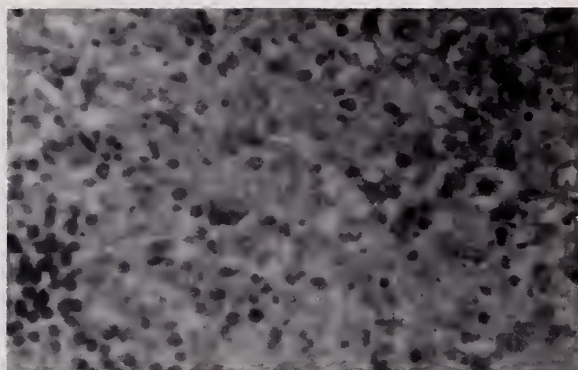


Figure 4. Enlarged cervical lymphnodes, left side. ("bubo"). Necrosis of reticulo-endothelial and tissue cells. X 450.

*Lymph Nodes Elsewhere:* (right cervical, axillary, mediastinal, inguinal)—proliferation of reticulo-endothelial cells with small foci of necrobiosis but no massive necrosis.

*Epiglottis:* Small focal area of proliferation of mucosal histiocytes (figure 5), with extensive necrosis and loss of surface epithelium (figure 6).

*Spleen:* Extensive geographic areas of coagulative necrosis (figure 7) with complete loss of lymph follicles, the process again starting with proliferation of reticulo-endothelial cells with subsequent necrobiosis and necrosis involving exudate cells as well as tissue cells.

*Liver:* Enlargement and proliferation of sinusoidal reticulo-endothelial (Kupffer) cells.

*Lungs:* Marked proliferation of alveolar septal cells compressing capillaries and being discharged into alveolar lumina together with fibrin-rich albuminous precipitate (figure 8). No areas of necrosis were seen except necrobiosis of individual alveolar histiocytes.

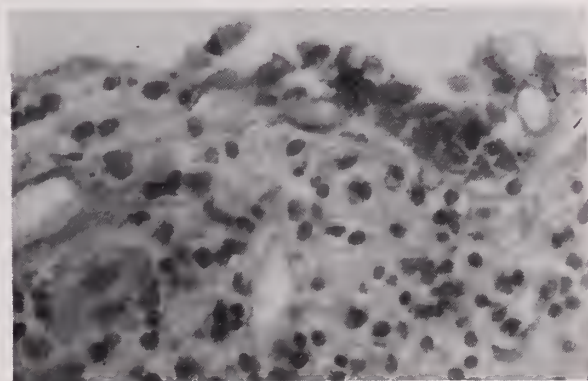


Figure 5. Mucosa of epiglottis. Proliferated histiocytes. Surface epithelium intact. X 450.

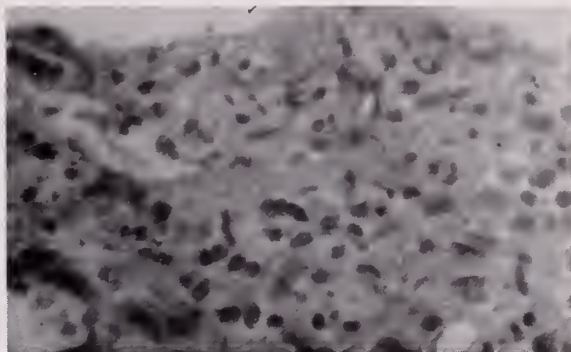


Figure 6. Mucosa of epiglottis. Histiocytes and surface epithelium undergoing necrosis. X 450.

*Heart:* Occasional small foci of non specific myocarditis (with histiocytes).

*All Organs:* Distinct tendency to lysis of red blood cells.

#### DISCUSSION

In our age of antibiotics and even prior to that age there are not many febrile diseases which are fatal to a young, healthy individual within one week. Such diseases come to mind as cerebral falciparum malaria; gas gangrene; influenza meningitis; meningococcic meningitis with adrenal hemorrhage; septicemia particularly subsequent to influenza type A infection; Rocky Mountain Spotted Fever; fulminant gram negative septicemia, etc. There was nothing in the clinical or bacteriological picture of this patient to suggest any such diseases. In addition to fever and the fulminant clinical course there was only the left cervical swell-



Figure 7. Spleen. Extensive geographic foci of necrosis, particularly of the Malpighian follicles. X 35.



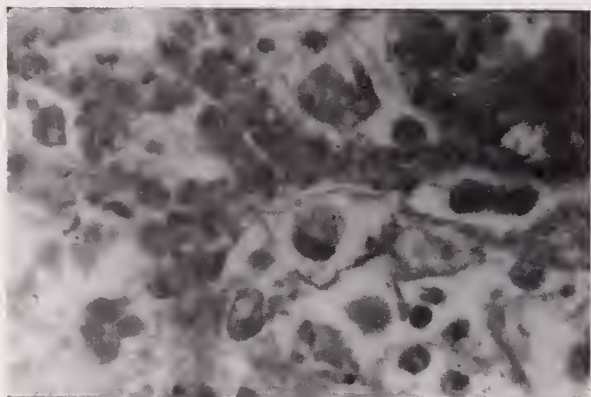


Figure 8. Lung. Marked proliferation and swelling of alveolar septal cells. X 450.

ing indicative of an organ involved. This turned out to be caused by cervical lymph node involvement and not by the parotid gland as originally suspected.

The first clue as to the nature of this disease was derived at from the gross and microscopic examination of the left cervical lymph nodes which were found to be the site of a severe necrotizing process. Neither tubercle bacilli nor fungi were demonstrable nor was the course of the illness and the restriction of necrosis to lymph nodes and spleen compatible with either tuberculosis or fungus infection of any kind. The peculiar type of geographic areas of necrosis confined to the lymph nodes of one side and also found extensively in the spleen pointed to the possibility of an infection with gram negative bacilli of the *Pasteurella* group such as *Pasteurella pestis* (plague) or *Pasteurella tularensis* (tularemia); in fact the large left cervical lymph nodes with their necrotizing inflammation obviously constituted what could be called a "bubo"; however the fact that no organisms were demonstrable in the lymph node sections and the blood cultures were negative virtually ruled out a diagnosis of plague since gram negative bacilli are found in large numbers and are easily cultured in that disease.

Attention was therefore concentrated on the possibility of tularemic infection; the marked proliferation of histiocytes and reticulo-endothelial cells found as precursors of necrosis tended to support that etiology; in addition, *Pasteurella tularensis* is notoriously difficult to culture. It is a fastidious

bacterium which grows only on cystine agar which would explain the absence of growth in the blood cultures which were planted on routine media.

It was decided therefore to investigate contacts with such vectors or animals known to be the carriers of *Pasteurella tularensis* notably the wild rabbit and wood ticks. Since the disease occurred in late March before the appearance of ticks, contact with a wild rabbit was looked for particularly.

When the wife of the patient was questioned about contact with a wild rabbit or ticks it was learned that only two to three days before the illness began with fever and chills, the now deceased had "played" with a wild rabbit which apparently seemed "tame." Most interestingly this was the only wild rabbit around his farm in Okmulgee which was not chased away by the farm dog (who chased away all other rabbits).

It is well known that tularemic rabbits do not always appear ill but they are easily caught since they are less lively than healthy ones; likewise other animals with a sixth sense avoid them. In addition, the father of the patient stated that "knowing his son" he would have "cuddled the rabbit" and thus have come in intimate contact with it.

Attempts to catch this particular rabbit which apparently had been a frequent visitor to the farm were fruitless. Two other rabbits from that area were shot but no disease nor carrier stage could be detected in them by histological, serological and bacteriological methods. Since no serum could be made available at the time of the autopsy due to arterial embalming and therefore no agglutination or flocculation test was performed, a final attempt was made to identify *Pasteurella tularensis* by means of fluoroscopic antibody methods in microscopic sections of the autopsy material, both at the Armed Forces Institute of Pathology and the Communicable Disease Center in Atlanta, Georgia (Doctor William Cherry). Doctor Cherry considered the results of this examination equivocal inasmuch as questionable soluble antigen staining was achieved but no intact bacteria. Doctor Howard Hopps of the Armed Forces Institute of Pathology, Geographic Section, stated that the results were negative for our case but also for known control cases; nev-



ertheless it was their opinion that a diagnosis of tularemia was justified on clinical, anatomical and histological grounds.

The reasons for making a final diagnosis of tularemia in the absence of definitive bacteriological and serological proof are in summary:

1. Known intimate contact with a wild rabbit tame enough to go visiting on a farm; avoided by dogs who chased all other rabbits and therefore suggestive of being a sick rabbit;

2. An exposure time of three days between contact and febrile onset, characteristic for tularemia;

3. A high, febrile, septic disease with a cervical bubo showing the characteristic necrotizing process of the tularemic infection subsequent to marked mobilization of histiocytes;

4. Participation of the spleen in the same process;

5. Extensive proliferation of the alveolar cells in the lungs with extensive fibrin deposition into alveoli, again characteristic for the first phase of tularemic pneumonitis;

6. Ineffectiveness of penicillin, also characteristic for tularemic infection;

7. Absence of any bacterial growth in the blood culture which had been performed on unenriched media in which *Pasteurella tularensis* does not grow;

8. A normal white blood cell count with a relative leucocytosis and shift to the left;

9. Finally, in an attempt to find the presumed port of entry of the infection which apparently secondarily involved the lymph nodes on the left side of the neck, the entire pharyngeal and laryngeal tract was examined histologically and a focus of characteristic histiocytic proliferation and necrosis was found in the mucosa of the epiglottis which is now considered to be the port of entry of the infection.

For these reasons, the type of tularemia we are dealing with was designated as primary oro-pharyngeal, and secondary, pulmonary typhoid, carrying an extremely high mortality if untreated.

The *Final Diagnoses* were:

1. Acute tularemia, primary oro-pharyngeal, secondary typhoid-pneumonic type, with

- a. focal necrosis involving the epiglottis,
- b. massive necrosis involving cervical lymph nodes, left side, and spleen,
- c. marked alveolar cell proliferation, lungs; extensive bilateral serofibrinous tularemic pneumonitis and sero-fibrinous pleurisy, left side,
- d. Kupffer cell proliferation of the liver,
- e. focal myocarditis,
- f. macular cutaneous rash.

2. Parenchymatous degeneration of the kidneys, marked,

3. Cerebral edema, marked,

4. Status post-tracheostomy.

#### TULAREMIA: A REVIEW

Tularemia, popularly called "rabbit fever" or miniature plague, is a systemic, infectious, febrile disease caused by *Pasteurella tularensis*, a gram negative plague-like bacillus, usually associated with ulcers at the port of entry (skin, conjunctiva, pharynx) with *regional* or *generalized* lymphadenopathy; and necrotizing lesions in lymph nodes, spleen, liver and lung.

#### HISTORY

Prophylaxis prior to diagnosis and treatment is urged in the Old Testament by Moses: "Of their (hares') flesh shall ye not eat and their carcasses shall ye not touch; they are unclean to you."

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## *Tularemia* / LOWBEER

It seems that tularemia was unearthed exclusively by American investigators who brought seemingly unrelated diseases of animal and man under one bacteriologic hat; in 1907, an obscure, febrile disease occurred in two persons after contact with one rabbit as reported by Cowley in Kentucky. In the same year, a conjunctivitis epidemic of unknown origin was observed by Martin in one county of Utah.

In 1910, an epizootic of rabbits in Washington, D.C., was described, and at the same time, a "glandular type" of tick fever in Idaho.

In 1911, Martin in Utah published a paper on deer fly fever caused by insect bites. In the same year, McCoy, concerned with the potential outbreak of bubonic plague following the 1906 San Francisco earthquake and fire, investigated a plague-like disease among brown squirrels in Tulare County, California.

In 1912, McCoy and Chapin isolated a gram negative bacillus from these squirrels, and called it, because they found it in Tulare County, *Bacillus tularensis*. Chapin subsequently became ill and found specific tularensic agglutinins in his own blood.

In 1914, the ophthalmologist Vail and the bacteriologists Wherry and Lamb isolated *Bacillus tularensis* from the infected human conjunctiva; this was the first case of isolation of this organism in human disease.

In 1919, Francis of the United States Public Health Service, isolated *Bacillus tularensis* from patients with "deer fly fever" in Utah and called the disease tularemia.

In 1920, Francis also isolated *Bacillus tularensis* from jack rabbits for the first time, putting the infection of brown squirrels in California, deer fly fever in Utah and rabbit fever in Washington on the same denominator which he called tularemia.

In 1924, the first fatal human case underwent an autopsy and was reported by Verbyke.

In 1925, O'Hara disease in Japan was found to be identical with tularemia.

In 1928, tularemia was found to exist in Russia, in 1929 in Canada, in 1930 in Norway and 1932 in Greece.

Tularemia now has been known throughout the entire United States with the excep-

tion of Vermont and Hawaii; in most of Europe with the exception of England; in Russia (where there was an epidemic in the Ukraine in 1941 in which 14,000 people were involved) and in Asia. No tularemia has been reported from Australia, South America and Africa with the exception of the latter's northern shores.

### TRANSMISSION AND RESERVOIRS OF INFECTION

*Tularemia* is contracted by transmission from bacterial cultures to man (laboratory infections); by transmission from animal to animal and by transmission from animal to man. It is *not* transmitted from man to man except for one reported incident where a pathologist (Doctor Emma Moss of the Charity Hospital in New Orleans) became infected while performing an autopsy on an unsuspected fatal case of tularemia.

More natural reservoirs in different roots of infection are known to exist in tularemia than in any other known infectious disease.

Nearly 50 species of wild animals serve as animal hosts for *Pasteurella tularensis*. Among those, rabbits (jack rabbits as well as cottontails) are responsible for 90 per cent of infections in the United States. One per cent of wild rabbits are believed to be infected but not necessarily "clinically" sick. The bacillus is also found in small rodents such as ground and tree squirrels; chipmunks; mice (California and Europe); rats (Los Angeles, Europe and Russia); guinea pigs (experimental); hares, beavers, raccoons, skunks, opossums, coyotes, fox and deer. It is also found in such birds as grouse in Minnesota, sage hens, chicken hawks, pheasants, quails and owls.

The organism is also found harbored by domestic animals, such as sheep in Montana, Idaho and Canada, of whom only 50 per cent are "clinically" sick; in dogs and cats; and in hogs and cattle.

A number of insects serve as vectors of tularemia by transmitting the bacteria from animal to man, directly and indirectly. Among those, ticks such as the wood tick, dog tick and the Lone Star tick play an important role, the latter being the prevalent transmitter of tularemia in Arkansas. Of other insects, flies such as the deer fly, rat



fly, stable fly, mouse fly and squirrel fly; mosquitos in Russia and Sweden; bed bugs (via feces) and the body lice all play a role as vectors.

From 1934 to 1960, 30,850 cases were reported in the literature or through health departments which amounts to an average of 834 per year. During the last 14 years there has been a sharp decline of reported cases from 1,400 in 1947 to 399 in 1956, a decline to less than one-third.

In 1906, the state with the highest incidence (28 per year) was Illinois, *followed by Arkansas* with 20, Virginia with 14, Missouri with 17, Georgia with 12, Tennessee with 11, Kentucky with ten, Ohio with nine, Texas with nine and *Oklahoma with eight*; finally Louisiana with eight. California and New England have a very low incidence which now includes Tulare County in California, and the incidence in Vermont and Hawaii has been zero.

On the basis of eight average cases of tularemia in Oklahoma per year, one can estimate that in Tulsa there would be only one or less per year.

The incidence of tularemia within a year is lopsided and seasonal; 75 per cent of the infections occur during the four summer months from May to August, whereas 25 per cent of infections occur during the eight remaining months; therefore, there are six times more infections in summer with the peak in May. The reason for that is that the tick season lasts from March to August; the deer fly season from June to September with a consequent increase in rabbit infection. Another peak occurs between November and January which corresponds to the rabbit hunting season.

In Arkansas where tick transmission is twice as frequent as rabbit transmission, there are six times as many tick transmissions than rabbit transmissions in spring and early June, but six times as many rabbit transmissions than tick transmissions in late fall and early winter because of rabbit hunting for supplementary food.

There are twenty different *types of possible infection* in tularemia which can be concentrated into four main groups: (1) Tularemia may be contracted by handling infected living or dead animals via intact or scratched skin or secondarily by transmission

to the conjunctiva. Such infection occurs in those who by profession deal with rabbits; in housewives and hunters via touching, skinning and cooking; in pathologists via autopsies, inoculations of animals and dealing with cultures. Handling also includes the squashing of infected ticks or flies. (2) A second mode of infection occurs by scratches of dogs or cats or bites from ticks and flies. (3) A third type of infection occurs by ingesting either partly cooked infected rabbits, or feces of bed bugs or water, contaminated by rats and mice as occurred in Russia; and (4) The infection may occur by inhaling the organism through sneezes of infected rabbits and cats; inhalation of dust from grain or from laboratories; and from laboratory cultures, as it has many times occurred in Camp Detrick devoted to biological warfare.

#### CLINIC OF TULAREMIA

The average *incubation period* is three and one half days with variations from one to six days and rarely as long as ten days. The *general symptoms* are high fever of 103 to 105; malaise; headaches; delirium; lymphadenopathy, focal or generalized; macular or erythematous skin eruptions which occur in ten per cent; nausea and abdominal pain; upper and/or lower respiratory symptoms; and moderate, occasionally high leucocytosis with a marked left shift and occasional presence of atypical lymphocytes.

With regard to specific symptoms, a number of specific types can be recognized. There are *five main clinical types* of tularemia:

(1) The *ulcero-glandular type* which comprises 80 per cent to 90 per cent of all infections and in which there is a necrotizing ulcer at the port of entry, usually a finger with marked regional lymphadenopathy.

(2) The second type is the oculo-glandular type occurring in six per cent to 13 per cent with the port of entry being the conjunctiva which becomes the site of a necrotizing ulcer and with swelling of regional cervical lymph nodes.

(3) The third clinical type is that of *oropharyngeal* tularemia occurring in adults in four and one-half per cent but in children in as high as 24 per cent and manifests itself as an often diphtheria-like tonsillitis and pharyngitis with cervical lymphadenopathy.



## Tularemia / LOWBEER

(4) The fourth type is the *glandular type* occurring in three per cent to 11 per cent in which there is no recognized site of entry and no regional lymph nodes, but generalized lymphadenopathy.

(5) The fifth is the *typhoidal type* occurring in only five per cent which represents septicemia without lymphadenopathy. There are many transitions from one type to another.

As a special *subtype*, the *pneumonic type* has to be mentioned which occurs in eight per cent to 25 per cent of ulcero-glandular, but in as high as 50 per cent to 70 per cent of typhoidal tularemia, both on a hematogenous basis. This type also occurs in 60 per cent in laboratory infection through aerogenic or aerosol infection.

Another subtype is the *gastrointestinal* and a third subtype is the *meningeal type* of tularemia, both infrequent or even rare.

The *ulcero-glandular type* of tularemia was mentioned as the most frequent type with 80 per cent to 90 per cent. In three per cent to 14 per cent it is caused by tick or fly bites; in one and one-half per cent by squirrels and in 66 per cent by various animals, but in 85 per cent to 90 per cent by rabbits. Among people who are handling such infected rabbits, 25 per cent are professionally engaged in dealing with rabbits and 75 per cent are not professionally engaged, and of these, one-third are hunters and the other two-thirds do the dressing, skinning and the cooking.

The second or *oculo-glandular type* of tularemia which occurs in 13 per cent is transmitted in 30 per cent by ticks and in 70 per cent by rabbits. The conjunctiva of the eyes is infected by fingers which have come in contact with diseased rabbits.

The third or *oropharyngeal type* of tularemia occurs in an average of 4.5 per cent in the adult, but in children under 16 years in as high as 24 per cent. A waterborne or rather water-rat borne epidemic in Russia in 1935 belongs in this category. The infection occurs by ingestion or inhalation. There may be a diphtheria-like tonsillitis with pharyngitis and high fever, which is not responsive to ordinary antibiotics, with systemic symptoms and without culture of such

organisms as streptococcus, staphylococcus, influenza and diphtheria bacilli. The fact that cultures remain sterile when planted on routine media is significant.

The *glandular type* of tularemia which occurs in three per cent to 11 per cent shows an involvement of rabbits in 100 per cent. Since there is no focal lesion, the port of entry is unknown. There is generalized lymphadenopathy.

The fifth or *typhoidal type* of tularemia which occurs in only five per cent represents a septicemia. There are no focal lesions, no lymphadenopathy, all indicating no resistance or high virulence quantitatively or qualitatively. Hence, the mortality is ten times higher than in the average case of tularemia or 60 per cent versus six per cent.

The *pneumonic subtype* of tularemia occurs as a hematogenous-embolic complication in eight per cent to 25 per cent of ulcero-glandular tularemia, but in as much as 50 to 70 per cent of typhoidal tularemia. Aerosol-inhalatory complications occur in 60 per cent of laboratory infections. Tularemic pneumonia is found in 17 per cent to 19 per cent of fatal cases and the mortality is 30 to 60 per cent in untreated cases compared to five to six per cent mortality in untreated ulcero-glandular tularemia.

An associated pleurisy may be found in 11 per cent to 50 per cent of such cases characterized by effusion of high specific gravity. The tularemic pneumonitis is often diffuse and bilateral.

Radiologists report ovoid or spherical shadows, patchy or homogeneous infiltration which may be diffuse, mottled or reticulated with resolution occurring long after clinical recovery. Pneumonia is not contracted after a course of the disease of three weeks. Cavitation and pulmonary arteriothrombosis may occur after six weeks of the pneumonic type.

There is a *gastrointestinal subtype* of tularemia, which is rare and occurs more often in children than in adults. It is the consequence of ingesting infected meat, particularly rabbits, in which the primitive observation is neglected that these bacilli are killed after a temperature application of 133 to 136 F (56-58 C) for ten minutes or more. It may also occur as a consequence of contamination with infected bed bug feces. It

may occur in the wake of the glandular type involving the mesenteric lymph nodes and intestinal lymph follicles. Focal or widespread ulceration involving the entire gastrointestinal tract or segments thereof have been reported with ileitis; pseudoappendicitis with subsequent appendectomies, cecal ulcerations with peritonitis, mesenteric lymphadenitis simulating appendicitis with a similar white cell count. The incubation period is often rapid. It is probably best known in France where rabbits are eaten frequently.

In December 1947, we had occasion to observe a case in our hospital which in part represented the gastrointestinal subtype, although the primary type essentially, but not chronologically, was the ulcero-glandular one. This 32-year-old white male developed right lower abdominal pain with mild leucocytosis and moderate left shift and was rather promptly operated with removal of his appendix. The appendix, however, was histologically normal. In visiting the patient, it was observed that he had a small ulcer on his finger which he stated had been caused by skinning a sluggish wild rabbit. He also stated that his epitrochlear and axillary lymph nodes were swollen and painful. Subsequently one of these lymph nodes broke down and a guinea pig was inoculated with its exudate. The guinea pig died in a few days with necrotizing lesions from which *Pasteurella tularensis* could be grown on cystine agar and a positive agglutination in complete high titer was observed, both in the guinea pig and the patient. This was one case of ulcero-glandular infection which masqueraded as appendicitis.

#### CASES OF TULAREMIA AT HILLCREST MEDICAL CENTER IN 20 YEARS BETWEEN 1947 AND 1966

A review of tularemia cases occurring at Hillcrest Medical Center between 1947 and 1966 reveals a number of sixteen cases or more. The projected number of Tulsa would be one or less per year, whereas the actual number for Hillcrest was 0.8 per year, a somewhat higher figure. This seems to be correct, however, since an incidence in hospitals must, by necessity, be higher than the overall reported incidence where many cases

are not diagnosed. *In fact, it is a matter of record that the correct diagnosis is not made in 75 per cent of the cases of tularemia.*

In our material, the ulcero-glandular type was represented in 60 per cent (80 to 90 per cent national average = n.a.); the oculo-glandular type in eight per cent (16 to 30 per cent n.a.); the oropharyngeal type in 16 per cent (four and one-half per cent to 24 per cent n.a.); the glandular type in 16 per cent (three to 11 per cent n.a.); the pneumonic subtype in 16 per cent (eight to 25 per cent n.a.), both of the respective cases occurring in the oropharyngeal main type; and the typhoidal type was observed once, eight per cent (five per cent n.a.). Whereas the overall mortality was six per cent, the mortality in the one case of typhoidal-pneumonic type was 100 per cent. Sixty-five per cent of the patients were men; 35 per cent were women. Nine or 75 per cent were less than 22 years old. Forty per cent were one to 16 years old with the youngest being two years. Thirty-three per cent were 16 to 22 years old, or in another type of statistical evaluation, two patients were one to ten years years old; one 11-15 years; six 16-22 years, and one each was 32, 48 and 61 years old.

When our patient who had the appendectomy was finally diagnosed clinically and later bacteriologically confirmed as having tularemia, he was immediately started on streptomycin, which just two and one-half years earlier had become known to be effective against tularemia. Whereas for ten days previously his temperature had remained elevated in spite of quinine, sulfonamides and penicillin, it fell precipitously on the second day after streptomycin was begun.

#### ANATOMY AND HISTOLOGY OF TULAREMIA

The anatomic changes and distribution of lesions are those of:

(1) An ulcer with a necrotic floor at the site of infection which may be found in the conjunctiva of the eyes, on the hands (rabbit-transmission) and on the legs (ticks).

(2) Enlargement and necrosis of the regional or of all lymph nodes called bubos, as in plague;

(3) Small necrotic foci in the liver and spleen with moderate enlargement of the spleen;



## Tularemia / LOWBEER

(4) Pulmonary edema and focal bronchial pneumonia with focal necrosis.

*Microscopically*, the reacting cells are the reticulo-endothelial cells which proliferate in the spleen, liver, lungs and capillary endothelium. The second phase of the process is necrosis of cells, tissue and bacteria which is not surprising if one considers that three million bacilli are concentrated in one cc of tissue. From the second week to the second month, giant cells appear, and after two months the area of necrosis becomes encapsulated and disappears between the second and ninth month. In the lungs, alveolar cell proliferation is predominant, and capillary compression with subsequent edema and necrosis occur in the first to second week.

### COURSE OF TULAREMIC INFECTION

The course of the tularemia infection if untreated or undiagnosed is that of fever from one to three days; remission for two to three days; a second fever wave up to 104 for three weeks or longer, and typically, a total of one month is spent in bed. The primary lesion breaks down, drains and heals in one and one-half months. The bubo breaks down, but before doing so it may quadruple by the 11th day, and heals after three and one-half months, which is the period of disability.

*Pneumonic complications* may clear clinically in four weeks, but they may persist radiologically for months. A skin test with antigen produced by the late Foshay is positive on the third or fourth day, but agglutination or flocculation is positive only from the second week on. The titer may double in the third week, quadruple in the fourth to seventh week and declines, but stays positive for the remainder of the life of the patient and provides immunity to a second infection.

There is a six per cent to seven per cent mortality in untreated ulcero-glandular and oculo-glandular types; 30 per cent mortality in the pneumonic subtype and 60 per cent in the typhoid-pneumonic type. On the average, death in fatal cases occurs from the tenth day to the third week and usually in the second week; occasionally, as early as

four and one-half days or as late as five months, but in general, death is unusual after one month of the disease.

It is worthwhile to mention at this time that the mortality after streptomycin is less than two per cent and probably altogether negligible.

### TREATMENT OF TULAREMIA

Before antibiotic therapy, tularemia was rather successfully *treated* with antiserum. Penicillin was found to be totally ineffective. Tetracycline is fairly effective, but it is bacteriostatic and therefore less effective than the bacteriocidal streptomycin which was first investigated with reference to tularemia by Heilman of the Mayo Clinic in 1944. It is now the drug of choice with one to two grams per day given for one week. In 48 hours, the fever is down, and even if streptomycin is administered after the disease has been in progress for as long as two weeks, the morbidity is reduced to one-half as is the mortality. The mortality since 1915 has been less than two per cent. In severe cases of tularemia, administration of streptomycin may cause a Herxheimer reaction which does not indicate either failure of streptomycin nor toxicity and only indicates a large number of bacteria killed. Finally, live attenuated vaccine has been used in laboratory workers, and it has been found to modify, but not prevent infection.

### DIAGNOSIS

The diagnosis of tularemia is difficult and is missed in 75 per cent of all cases. One can divide the diagnosis into two main types: A *subjective-intuitive one* based on awareness of the disease; and an *objective one*. With regard to the intuitive diagnosis, one should consider the presence of tularemia in all cases with high fever of abrupt onset; bubo; and focal ulcers, although the findings of the latter may require careful clinical examination. One then should ask specifically for contact with rabbits, ticks and other animals because such history usually is not volunteered by the patient. In other words, one has to develop a factor of suspicion based on awareness and knowledge of the disease. One must consider the season with reference



to ticks or with reference to rabbit hunting, and also ask concerning rabbit meals, with preceding hunting and skinning. It may be pertinent to ask for the character of the rabbit involved, whether it was sluggish, easy to shoot, too tame and what the relation of the rabbit was to dogs, who notoriously keep away from sick animals. One also must consider a negative sort of diagnostic approach, such as the absence of response to penicillin; absence of bacterial growth in all routine media, and clinical improvement of pneumonia despite the absence of roentgenologic clearing.

The *objective diagnosis* of tularemia is based on the following *laboratory tests*:

(1) The white blood cell count may be normal or moderately elevated and occasionally very elevated, but a left shift is always prominent;

(2) A skin test with Foshay anti-serum is positive within the third day requiring a 48 hour reading;

(3) Culture from the blood and pharyngeal washings should be placed on cystine agar and that of course should be done prior to the administration of any antibiotic. It will be positive in 85 per cent in the first three weeks of infection;

(4) A guinea pig should be inoculated with blood, drainage material and should die within a week with typical lesions. It should be stressed that these animals are highly contagious;

(5) A rising agglutination titer from the second week on is essential. ☐

*Bibliography available from  
the author on request.*

1120 South Utica, Tulsa, Oklahoma

## CLINICAL CARDIOLOGY

**Monday through Friday, February 6th-February 10th, 1967**

**UNIVERSITY OF OKLAHOMA MEDICAL CENTER, OKLAHOMA CITY, OKLAHOMA  
FACULTY**

Robert H. Bayley, M.D., Professor of Medicine  
Loyal L. Conrad, M.D., Associate Professor of Medicine  
Paul R. Houk, M.D., Instructor in Medicine  
John M. Kalbfleisch, M.D., Assistant Professor of Medicine  
John D. Kyriacopoulos, M.D., Instructor in Medicine  
Jiro Nakano, M.D., Associate Professor of Pharmacology  
John P. Naughton, M.D., Assistant Professor of Medicine  
G. Rainey Williams, M.D., Professor of Surgery

### GENERAL DESCRIPTION

A course emphasizing modern aspects of physical examination, electrocardiography, and radiography to the diagnosis, pathophysiology, and management of common heart problems. The material is presented by means of self-teaching cases, examination of patients, lectures, and small discussion groups. Participation of the physician in each exercise is stressed. A laboratory manual is furnished each participant. Enrollment is limited to 25. The fee of \$80.00 includes laboratory manual and admission to social hour and dinner.

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Clinical exercise  
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## NEW MALPRACTICE POLICY ENDORSED

**House of Delegates Drops St. Paul in Favor of The Insurance Company of North America**

**OSMA Members Urged To Convert To the New Program When Present Policies Expire**

A fourteen-year-old malpractice insurance relationship between the St. Paul Fire and Marine Insurance Company and the Oklahoma State Medical Association has been terminated by the unanimous action of the association's House of Delegates on December 10th.

In place of St. Paul as the recommended professional liability carrier for Oklahoma physicians, the OSMA has named the nation's oldest casualty insurance company, the Insurance Company of North America, as the preferred underwriter.

Action came following the presentation of a fourteen-page report from the association's Council on Insurance. The report, presented by Council Chairman C. E. Woodard, M.D., Tulsa, cited a variety of reasons for withdrawing endorsement from St. Paul and explained the advantages to be gained under the INA program.

### Poor Relations

Woodard reported that the Council on Insurance had been unable to effectively negotiate with St. Paul officials during the past several years. He mentioned frequent premium increases, inconclusive reporting of loss experience in justification of increased rates, unjustified cancellation of some OSMA members' policies, failure of the company to in-

augurate an effective claims prevention program, and several other areas in which the company disregarded the views of the association in the management of the program.

Rates were increased by St. Paul on June 14th to a level which exceeded the rates of competitive companies in Oklahoma, placing the OSMA in a position of recommending the highest-priced coverage on the market. Other companies followed suit because the extent of OSMA enrollment in St. Paul heavily influenced the reported loss experience for the state.

### INA's Plan

Following St. Paul's unilateral action in achieving the rate increase, the Council on Insurance held a special meeting on the problem and elected to submit the program to bid. All insurance companies in the United States which were known to write professional liability insurance were offered the opportunity of submitting competitive bids. The Insurance Company of North America's bid was considered to be superior.

Because of INA's inability to comprehend or rationalize the St. Paul loss figures, the new carrier will offer professional liability insurance to OSMA members from January 1st

forward at the same rate as the former carrier, but in addition, *has recommended a "participating contract" whereby physicians may receive up to 10 per cent dividend based upon favorable loss experience.* This innovation would have returned about \$100,000 in premiums to OSMA members over the past five years.

Other features of the INA offer, to be incorporated into a contract with the association, are outlined in brief below:

- An effective claims prevention program, designed to reduce claims and losses, will be worked out jointly between the company and the association, and will receive the financial backing of INA.
- A certified list of all insureds, their policy numbers, and amounts of coverage will be furnished to the OSMA by the company.
- Legal counsel for the defense of malpractice suits can be selected by the OSMA with the agreement of the company.
- Accurate loss information and statistical studies of liability incidents will be submitted regularly by the company for the purpose of appraising the fairness of premium rates and for gearing the claims prevention program to specific problem areas.

- The OSMA will be consulted, and shall have ten days to respond, before any member's coverage is reduced, cancelled, or his renewal declined. In any instance, 30 days notice of action shall be supplied to the insured physician.

- Any changes in rates or coverage will be subject to consultation with the association at least 90 days in advance.

- Assault and battery, and slander, will be covered where associated with medical practice.

- The company shall cooperate fully with the OSMA and the insured in the judicious processing of consequential claims, including the OSMA's evaluation of the medical merits of such claims.

The INA policy form has been examined carefully by the association's attorney and has been determined to be as comprehensive as any available on the market. Moreover, the company attitude indicates that considerable latitude will be extended in the interpretation and application of policy conditions.

INA is about three times as large as the former carrier, with assets of almost two billion dollars. The company has sixty employees in its Oklahoma City office, including nine college graduate claims adjusters. In addition, a large office with claims personnel is maintained in Tulsa.

The company has successfully underwritten the OSMA disability income insurance program since 1961.

#### **The Changeover**

All policies under the INA professional liability program will be written to a common anniversary date of January 1st. The purpose of this uniformity is to facilitate the correlation of loss experience to premium income, and to simplify policy service and the computation of dividends.

OSMA members are being mailed comprehensive packets on the new program at the present time. To avoid a penalty for cancellation, physicians will be asked to convert to INA when their present coverage expires. The initial policy will be written to cover the balance of the

period ending January 1st, and the premium will be prorated to that point by INA without penalty.

If any physicians are cancelled by the former carrier as a result of the OSMA's change to the new company, INA will provide protection immediately.

The new coverage may be obtained from any INA agent, of which there are nearly 200 in Oklahoma, representing one of the largest agency systems in the state.

Since a large enrollment is necessary to assure the full value of the INA arrangement, an intensive enrollment campaign will be carried out during 1967, and the Council on Insurance is hopeful that all OSMA members will join the cooperative effort to improve the professional liability climate in Oklahoma. □

### **"OSMA News" Begins This Month**

The first issue of "OSMA News," a monthly newsletter to the association's membership, was mailed from OSMA headquarters on January 4th. As a four-page publication, it is designed to provide a brief report on timely topics of major interest to state physicians.

The "News" will be published nine times a year—September through May. Since the Oklahoma Legislature will meet annually beginning with the current session, "OSMA News" will be a primary tool of the OSMA State Legislative Committee in communicating with the profession regarding the association's legislative problems and prospects. It will not supplant the news section of the *Journal of the Oklahoma State Medical Association*, but its first-of-the-month release day should compliment the *Journal* by providing communications to the entire profession every fifteen days.

"OSMA News" is published under the direction of the association's Council on Public Policy and Public Relations Committee. The managing editor is Ed Kelsay, OSMA Public Relations Director. □

### **Mental Health And Retardation Conference Scheduled**

The annual statewide Mental Health and Retardation Conference will be held February 9th in the Skirvin Hotel in Oklahoma City. This will be the second year for this conference and all physicians and other interested persons are invited to attend.

"The purpose of these meetings is to examine the progress being made in the mental health and retardation field," Hayden H. Donahue, M.D., Chairman of the OSMA Council on Public Health, said. "We will study this progress and the programs of other states and attempt to apply the knowledge thus gained to the State of Oklahoma. We know the conference will not solve our problems, but it will give us a chance to organize and co-ordinate our thinking along constructive lines."

The program has been arranged by Mr. Dwight Whelan, OSMA Associate Executive Secretary, with the advice of several association and state officials.

"We are extremely fortunate to have two top legislative leaders—Clem McSpadden of the Senate, and Rex Privett of the House—accept invitations to appear on the program," Mr. Whelan said.

The daylong program will feature several nationally recognized leaders in the mental health field. Among them will be Hamilton Ford, M.D., of the AMA's Council on Mental Health, and Howard Rome, M.D., of the Mayo Clinic.

Mr. Richard Elwell and Doctor Bertram Brown will represent the National Institute of Mental Health.

The program will start promptly at 9 o'clock in the Convention Hall of the Skirvin Hotel. Registration will begin at 8:00 a.m. and coffee will be served.

**PROGRAM—MORNING SESSION**  
Presiding: Hayden H. Donahue, M.D., Norman, Chairman, Council on Public Health, Oklahoma State Medical Association

**INVOCATION:** Reverend John Westhof, Minister, First Pres-



byterian Church, Edmond, Oklahoma

9:00 WELCOME—Ennis M. Gullatt, M.D., Ada, President, Oklahoma State Medical Association

9:05 OKLAHOMA'S CHALLENGE—Governor Dewey F. Bartlett

9:15 NATIONAL MENTAL HEALTH PROGRAMMING AND PROGRESS SINCE 1964—Hamilton F. Ford, M.D., Galveston, Texas, Member and Past-Chairman, AMA Council on Mental Health

9:45 OKLAHOMA'S PROGRESS SINCE 1964 AND ITS UNMET NEEDS—Albert J. Glass, M.D., Oklahoma City, Director, State Department of Mental Health

10:15 Coffee Break

10:30 MENTAL RETARDATION

11:10 ALCOHOLISM AND DRUG ADDICTION — Howard Rome,

M.D., Rochester, Minnesota, Chairman, Section on Psychiatry, Mayo Clinic

12:00 noon Lunch Period

#### AFTERNOON SESSION

1:30 MEDICARE AS IT RELATES TO MENTAL HEALTH PATIENTS—Mr. Richard Elwell, Bethesda, Md., National Institute of Mental Health

2:15 DEVELOPMENTS IN MEETING MENTAL HEALTH NEEDS IN THE COMMUNITY—Bertram S. Brown, M.D., Bethesda, Md., Director, Community Mental Health Services, National Institute of Mental Health

3:00 MEDICINE'S ROLE IN MEETING MENTAL HEALTH NEEDS—George H. Guthrey, M.D., Oklahoma City

3:20 Break

3:30 PANEL DISCUSSION—AUDIENCE PARTICIPATION

Moderator: George H. Guthrey, M.D., Oklahoma City, President, Oklahoma Association for Mental Health

Panelists: Charles E. Smith, M.D., Oklahoma City, President, Oklahoma District Branch, American Psychiatric Association

Albert J. Glass, M.D., Oklahoma City, State Director of Mental Health

Honorable Clem McSpadden, Claremore, President Pro Tempore, State Senate

Honorable Rex Privett, Maramec, Speaker, Oklahoma House of Representatives

A. B. Colyar, M.D., Oklahoma City, State Commissioner of Health

Lloyd E. Rader, Oklahoma City, Director, State Department of Public Welfare

4:25 CONFERENCE SUMMARY — Albert J. Glass, M.D., Oklahoma City

4:45 ADJOURNMENT

□

## REMEMBER!

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## Rising Hospital Costs To Be Explained

Rising hospital costs will be explained to the general public in a new statewide educational program being sponsored by the Oklahoma Hospital Association and the Oklahoma Blue Cross and Blue Shield.

The key to the program will be a brochure entitled "The Simple Facts About Hospital Costs" stressing the fact that salaries and wages comprise 70 per cent of such costs.

The brochure takes the form of a ruled note pad and tells its story with simple drawings and straightforward statements. It compares the operation of a hospital to that of an industry.

Using a candid approach, the brochure states, "With hospital employees under the Minimum Wage Law for the first time, a fresh upward surge in payrolls is underway. Hospital costs are headed for new highs."

OHA plans a full public relations program around this brochure. It is urging all persons connected with hospitals to read and use the information. Procedures for getting this information to the general public have been carefully outlined.

In a letter to all hospital administrators, Wesley D. Burch, President of OHA, stated, "Hospital costs continue to spiral upward. We know this. But, the increase in hospital costs for the next three years in Oklahoma will be fantastic, perhaps, as much as 80 per cent.

"Hospitals have a good story to tell," he added, "and this story should be told promptly, proudly and positively."

In comparing hospitals to industry the brochure points out that one out of every three hospital employees is classified as "skilled" while in the automobile industry the figure is only one out of six.

Where a hotel will have one employee for every six guests a hospital requires 2.46 employees for each patient. The hospital needs 14 times as many employees to maintain service. □



## Tulsa Physician Honored

David V. Hudson, M.D., retired Tulsa physician, is presented with a Certificate of Life Membership from the Oklahoma State Medical Association by Samuel R. Turner, M.D., (left), Chairman of the OSMA Board of Trustees. The presentation took place at the December 12th meeting of the Tulsa County Medical Society.

A graduate of Johns Hopkins University School of Medicine, class of 1923, Doctor Hudson was a medical missionary in China for several years. He returned to the United States in 1928 to join the faculty of the State University of Iowa School

of Medicine, and in 1930 became a practicing urologist in Tulsa. In 1941 he joined the staff of the Tulsa City-County Health Department as Director of Communicable Diseases Control, a post which he held until his retirement in March of this year.

Doctor Hudson and his physician wife, Doctor Margaret G. Hudson, were named as the 1965 Doctors of the Year by the Auxiliary to the Tulsa County Medical Society. A long time secretary of Tulsa County Medical Society, Doctor Hudson is credited with establishing the organization's 16,000-volume library and monthly publication. □

## OSMA Will Sponsor First Aid Station

The "Doctor of the Day" program for the Oklahoma Legislature is again being sponsored by OSMA and the Oklahoma Chapter of the American Academy of General Practice.

Each day the legislature is in session a doctor will be assigned to man a first aid station on the fourth floor of the State Capitol Building.

The supplies and equipment were donated by several Oklahoma City companies: Dulaney's Manufacturing Company, Melton & Company,

and Oklahoma Physician's Supply.

Mr. Connie Masterson of Connie's Prescription Shops in Oklahoma City has furnished the major portion of the drugs and medication to be used.

Any M.D. interested in serving as "Doctor of the Day" should contact Mr. Dwight Whelan at the OSMA Executive Offices. "This program will give many physicians an opportunity to get a first hand look at the operations of the two houses of the legislature." Mr. Whelan said. □

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## Legislative Bill Digest

This Legislative Digest will be a regular feature of the *OSMA Journal* during the legislative session. It will digest every bill introduced that would affect the medical community in some way.

The initials SB or HB will designate the origin of the bill, either Senate or House. The number following will be the bill number assigned by the originating body. The name(s) following the number will be that of the author(s) and after that a digest of the bill itself. The last item will be the OSMA policy position on that particular legislation.

### Senate Bills

SB 5: Murphy: A law permitting state agencies to hire non-citizens of the United States. This will affect the employment of foreign physicians, but will not override present medical licensing laws.

OSMA: *Endorsed*

SB 9: Massad & Terrill: Providing persons having an illegitimate child(ren) shall be unfit to have care, custody and control of all their children, and that such children shall be deemed dependent and neglected children; providing further that establishment of illegitimacy shall constitute a prima facie case of unfitness of parents, guardians or other persons having care and custody of said child(ren).

OSMA: *Under study*

SB 20: Nichols: An act relating to water pollution and creating a Water Quality Control Commission in the State Health Department, authorizing proceedings before such commission and providing for penalties for violations.

OSMA: *Endorsed*

Comment: This act is in the best interest of public health. OSMA will support the general concept through the news media.

SB 21: Berrong & Gee: An act relating to establishment of uniform health and accident insurance for state employees and officers and creating a Group Health Board to supervise the program.

OSMA: *Action deferred*. Recommendation will be formulated jointly by State Legislative Committee and Governmental Relations Committee. Comment: OSMA State Legislative Committee favors a health insurance program as a fringe benefit for public employees. However, this particular bill is extremely complicated and will require study before a policy position can be formulated.

SB 27: Martin: An act empowering the State Board of Health to regulate, police and plan air quality management; providing for control of air pollution.

OSMA: *Not yet reviewed*

SB 28: Smith: Providing for chemical tests for operators of motor vehicles on public highways or streets when a law enforcement officer has reasonable grounds to believe such operator is under the influence of alcohol.

OSMA: *Not yet reviewed*

SB 32: Birdsong: An act establishing an Oklahoma Drug Commission to classify products as dangerous drugs and amending the Uniform Narcotic Drug Act to conform to such a commission.

OSMA: *Not yet reviewed*

### House Bills

HB 512: Goodfellow: Providing for a State Civil Defense Department and establishing a Department of Emergency Resource Management.

OSMA: *No position*

HB 517: Cox: (Same as SB 5, above.)

OSMA: *Endorsed*

HB 524: Watkins (H) & Gee (S): An act relating to the Workmen's Compensation Code providing for compensation for injured employees in hazardous employment and providing a schedule of awards.

OSMA: *Under study*

Comment: This bill will rewrite a major portion of the present code changing death benefits and certain other awards. The length of the bill will necessitate an extended study.

### Anticipated Legislation

Following each of the special interest categories below, appears a

summary digest of possible legislative proposals which will be of concern to the medical profession during the 31st legislative session.

### NURSING

The Oklahoma State Nurses Association and the Oklahoma State Association of Licensed Practical Nurses have drafted four legislative proposals.

1. To stagger the terms of practical nurses serving on the Board of Nurse Registration.

2. To repeal time involved in educational requirements for professional nurses. This would reduce the minimum length of programs for professional nursing conducted by a hospital school of nursing.

3. To adjust the per diem for persons in attendance at official meetings of the Board of Nurse Registration.

4. To make licensure a requirement to practice professional or practical nursing.

The OSMA Legislative Committee met with the nursing associations. After research and advice from OSMA legal council, an attempt is being made to have nurses amend the wording of proposal #4 in order to safeguard a physician's office assistant.

### CHIROPRACTIC

Several proposals concerning chiropractic are anticipated for this session. Reportedly they plan to introduce legislation to create an Oklahoma School of Chiropractic; to require the welfare department, insurance companies and the Workmen's Compensation to recognize all of the healing arts on an equal basis; to place a chiropractic doctor on the State Board of Health; and to reduce the licensing requirements for chiropractors in Oklahoma.

OSMA successfully opposed the placing of a chiropractor on the Board of Health during the 1963 session.

Two additional bills, which OSMA will favor, will be introduced in this

session which, if enacted, would:

1. Prohibit advertising in open or public media by any practitioner of the healing arts. *At present, chiropractic is the only category permitted to advertise.*

2. Make it a criminal offense to practice *medicine* in Oklahoma without a license.

#### TECHNOLOGISTS

OSMA, in cooperation with eight other medical and paramedical organizations, has formed the Inter-organizational Committee for Improved Clinical Laboratory Performance in Oklahoma.

This committee will draft legislation and develop educational programs for medical laboratory performance. All represented organizations have agreed to cooperate fully to draft the best and most comprehensive legislation.

This committee is composed of the following organizations: Oklahoma State Medical Association; Oklahoma Association of Pathologists; Oklahoma State Health Department; Oklahoma Hospital Association; Oklahoma Society of Medical Technologists; Association of Medical Technologists; International Society of Clinical Laboratory Technologists; American Association of Bioanalysts, and Oklahoma Osteopathic Association.

#### DISPENSING OPTICIANS

Legislation to create a registration law for dispensing opticians will be introduced this session. This proposal will give supervision to the State Board of Medical Examiners and will permit such registered opticians to continue providing service in contact lens field on prescription from ophthalmologists.

During the last session the Oklahoma Optometric Association introduced a bill to prohibit dispensing opticians from fitting contact lens—even on the prescription of an ophthalmologist. OSMA was successful in defeating this proposal. □

## OMPAC Dues Roll In

Oklahoma physicians and their wives are rallying behind the Oklahoma Medical Political Action Committee in record numbers according to state chairman Rex Kenyon, M.D., Oklahoma City.

"The OMPAC Board of Directors has been conducting a membership drive since October," he said, "and we are delighted with the response."

A booth was maintained by the group during the Oklahoma City Clinical Society Fall Conference and more than one hundred new members were enrolled in two days. In addition, each director of OMPAC is conducting a person-to-person canvass of the physicians and auxiliary members in his district.

Finally, at the direction of the Oklahoma State Medical Association's House of Delegates, all OSMA members are being given the opportunity to join OMPAC at the same time they pay their 1967 state medical association dues. Special dues statements have been distributed which include billing for the *voluntary* payment of OMPAC dues along with the regular billing for county society, state association, and American Medical Association annual dues.

"Although the dues statements stress that OMPAC dues are voluntary, early returns indicate that more than one-fourth of the state medical association members are contributing financially to the cause of OMPAC," Kenyon said.

OMPAC is a non-partisan committee dedicated to an important purpose—to win better legislative representation through effective political action. It is governed by a Board of Directors which is appointed by the Board of Trustees of the Oklahoma State Medical Association.

There are sixteen directors: Two physicians from each of Oklahoma's six congressional districts, two auxiliary members, and two directors appointed at large. The present board is comprised of one-half Democrats and one-half Republicans.

According to Kenyon, OMPAC provides a legal mechanism for the

medical profession to contribute funds and effort behind individual candidates for public office "whose integrity and political philosophies make them worthy of public trust."

"While we encourage all physicians to work in the political party of their choice," Kenyon explained, "for the purposes of OMPAC we look primarily at the individual candidate, without regard to his party affiliation, because we believe the caliber of the man transcends the party label he bears."

Small contributions (minimum OMPAC dues are only \$20 a year) can be transformed through OMPAC into a potent political force. When election time draws near, candidate selection committees are activated, in each congressional district, candidates are interviewed, and recommendations for OMPAC support are channeled to the state Board of Directors.

"We try to concentrate statewide resources on key races where the issues are most striking and where the chances for important victories are most probable," the OMPAC chairman said.

OMPAC has been proven as a successful vehicle to achieve good government. A respected Oklahoma Congressman attributed his 1966 primary victory in large part "to the active and effective support of OMPAC."

Kenyon's aim is to beef up OMPAC's membership rolls and treasury in preparation for the 1968 election year. "We can make a significant contribution toward improving our public representation in the legislative halls, provided we develop the necessary strength early enough and use good judgment in making our commitments. The way our ranks are growing daily indicates that we are well on our way to maturity as an effective voice in Oklahoma politics."

Further information concerning OMPAC may be obtained by writing Box 75341, Oklahoma City, for a free copy of the folder, "Whatever Your Politics—Vote OMPAC!" □



## Only 16 Nursing Homes Qualify For Medicare

The Extended Care Benefits provided by Title XVIII of Medicare went into effect at midnight New Year's Eve. As of January 5th only 16 institutions in Oklahoma had qualified to receive patients as Extended Care Facilities.

There are some 475 nursing homes in Oklahoma at the present time. Only 80 have applied for extended care qualifications and of these 60 could not meet the statutory requirements. While 16 have been approved, four more are under consideration.

Joe O. Rogers, Assistant Director of the Division of Medical Care for Oklahoma, said, "We will probably double the number of qualified institutions in a short time. Most of the original applications have been temporarily withdrawn by the institutions to give them time to perfect their requirements."

Among the requirements the institution must meet are: 24-hour nursing service; a professional dietitian to direct food service; a mutual transfer agreement with a medicare hospital; and a provision for x-ray and laboratory services.

The complete requirements are set out in the Department of Health, Education and Welfare's booklet "Conditions of Participation for Extended Care Facilities."

Title XVIII provides that "Extended Care" can be made available through hospitals, nursing homes and certain homes for the aged when they qualify under the Federal Statutes.

Mr. Rogers went on to say, "The majority of hospitals and nursing homes interested in becoming extended care facilities have more difficulty meeting the professional personnel requirements than any other part of the program.

"Primarily the problem is in the 24-hour nursing requirement. The statute requires the facility to have a registered nurse as Director of Nursing and, at least, one LPN on each shift."

The patient with extended care

benefits will get the full cost of certain nursing home services for the first 20 days of his stay in a qualified facility, plus all but \$5 per day of those costs during the next 80 days. Doctor bills are not covered. However, they are covered by the voluntary medical insurance offered by medicare.

"One of the main reasons for so few applications," Mr. Rogers said, "is that most nursing homes in Oklahoma are full. They just don't need the business. However, we expect many small hospitals to apply when they become aware they can qualify as an Extended Care Facility. Currently there are only three hospitals in the state that have applied and all qualified."

Mr. Rogers pointed out that it would require additional expense for many nursing homes to qualify and this would be another reason for so few applications.

In Oklahoma most nursing homes are proprietary and operate for a profit. The medicare law allows skilled nursing homes to be paid at a rate assuring a 7.5 per cent return on invested capital, a percentage not considered attractive by investors.

Anyone interested in extended care qualifications can contact Mr. Joe O. Rogers, Medicare Department, State Department of Health, 627 N.W. 15th Street, Oklahoma City, Oklahoma. □

## Standard Nomenclature Voluntary on Welfare Claims

In response to numerous inquiries from Oklahoma physicians, the Department of Public Welfare has advised the OSMA that physicians are not required to use the AMA's "Current Procedural Terminology" booklet in describing medical services on DPW claim forms.

According to welfare director Lloyd E. Rader, "The use of this booklet and coding of claims is not mandatory . . . It was suggested and requested that physicians code the claims . . . since it would expedite payment . . ."

He explained that too often the services performed were not clearly

described, necessitating follow-up correspondence in order to determine the reasonableness of the charges.

Mr. Rader said all physicians could be told that the booklet's use is not mandatory, but would be appreciated as an administrative mechanism for expediting the payment of claims.

The booklet has been found lacking in comprehensiveness, since a large number of medical and surgical procedures are not included. At the last meeting of the AMA's House of Delegates, criticism of the booklet brought about an admission that it was incomplete in its first writing and would have to be perfected in subsequent editions.

The OSMA Board of Trustees voted on December 10th to oppose any mandatory application of the coding technique, but the welfare department has pointed out that such has never been required. □

## AMA Supports Raise for Nurses

A "significant improvement in the income of the registered nurse" was called for by the AMA House of Delegates at its recent biannual session in Las Vegas.

The delegates agreed with the AMA's Board of Trustees and the Committee on Nursing and voiced its support for better wages for the registered nurse.

In June, the American Nurses' Association adopted a national salary goal of \$6,500 for registered nurses beginning practice. The House questioned such a national salary goal that would establish a minimum rate of compensation for the entire country.

The report of the Board of Trustees and the Committee on Nursing to the House recognized that there will be considerable variation in compensation depending upon the prevailing local conditions, training, experience, and degree of delegated responsibility.

The house also voted to continue to support in principle all current nationally approved educational programs for nurses. □





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## Eugene F. Lester, M.D. Honored

Eugene F. Lester, M.D., was honored by the Oklahoma Board of Medical Examiners and Basic Science Examiners at a special banquet in Oklahoma City on December 9th.

Doctor Lester had served as secretary of the board for 12 years prior to his resignation in July. He was originally appointed to the board by Governor Raymond Gary in July of 1955 and was elected to the position of secretary in September of that year upon the resignation of Doctor Clinton Gallaher.

At the banquet the members of the two boards presented him with a plaque inscribed as follows:

"Award of Appreciation to Eugene Faye Lester, Jr., M.D., whose 12 year service as Secretary of the Oklahoma Board of Medical Examiners and of the Oklahoma State Board of Examiners in the Basic Sciences has guided their members patiently and wisely.

"He discharged his responsibilities unobtrusively and with integrity, always in the best interest of the public well-being and with the obligations of health professions at heart.

"His contributions of time, energy and dedication were always greater in measure than he asked of his colleagues."

The President of the Board, Doctor Francis Davis of Shawnee, said, "Doctor Lester's wise counsel will be sorely missed. But, more than that, we will miss his presence at our meetings." □

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## DEATHS

J. E. COCHRAN, M.D.  
1882-1966

A pioneer physician of Byars, Oklahoma, J. E. Cochran, M.D., died in Tulsa, December 8th, 1966.

The 84-year-old doctor was a native of Winfield, Alabama, and graduated from the University of Tennessee School of Medicine in 1913.

One of the highlights of Doctor Cochran's career came in 1955 when the community of Byars celebrated "Cochran Day." More than 1,000 persons from 25 states attended the event.

A Life Membership in the Oklahoma State Medical Association was presented to the physician in 1952.

IRA B. OLDHAM, JR., M.D.  
1900-1966

Muskogee physician Ira B. Oldham, Jr., M.D., son of the late Doctor Ira B. Oldham, Sr., died December 8th, 1966, in Muskogee.

Born in Madison County, Kentucky, Doctor Oldham graduated from the University of Tennessee School of Medicine in 1925 and established his practice in Muskogee in 1927.

Doctor Oldham was honored this year by the Oklahoma State Medical Association with the presentation of an Honorary Life Membership.

JOHN LESLIE LEHEW, SR., M.D.  
1868-1967

A 98-year-old pioneer Oklahoma doctor, John Leslie Lelew, Sr., M.D.,

died in Guthrie, January 2nd, 1967. He was the father of two practicing physicians, John L. Lelew, Jr., M.D., and Elton W. Lelew, M.D., and the grandfather of John L. Lelew, III, M.D., all of Guthrie.

A native of Mount Pleasant, Iowa, Doctor Lelew graduated from the University Medical College of Kansas City in 1897. He established his practice in Pawnee, Oklahoma, in 1899, where he remained until his retirement several years ago.

Doctor Lelew was active in the civic affairs of his community and in 1950 was honored when the town celebrated "Doctor Lelew Day" in honor of his "faithful and meritorious" service. The Oklahoma State Medical Association presented him a Life Membership in 1951.

WOODROE W. WILLIAMS, M.D.  
1912-1967

An Idabel, Oklahoma physician, Woodroe W. Williams, M.D., died January 1st, 1967, in Texarkana, Texas. Born July 4th, 1912, in Idabel, Doctor Williams graduated from Baylor University College of Medicine in 1937. He took postgraduate study in Mexico, Cuba, Haiti and Puerto Rico.

In 1940, he established his practice in Idabel, where he remained until his death. Doctor Williams was a member of the Phi Alpha Sigma, medical fraternity. □

## BOOK REVIEW

**SYNOPSIS OF DERMATOLOGY**, by Wm. D. Stewart, M.D., Julius L. Danto, M.D. and Stuart Maddin. Second edition, leather, 635 pp., 155 figures and 32 color plates. St. Louis, Missouri, The C. V. Mosby Company, 1966. \$10.85.

This is a relatively small book that in my opinion can be very useful and practical to both medical students and physicians in practice. It is divided into three parts with 37 chapters. The first part deals with embryology, anatomy, and physiology of the skin. The second part is de-

voted to clinical dermatology in general with a description of diagnostic and therapeutic techniques; it also contains a very interesting and useful chapter of regional diagnosis in which a description of the most common skin diseases found in each region of the body is described. This regional diagnosis should be very helpful in the initial search for a differential diagnosis. In the third part specific dermatologic diseases are described in more detail. Although this book is a synopsis, the subjects are covered in a sufficiently



extensive manner which should provide in most instances enough information for the diagnosis and treatment of dermatologic diseases, without the need for more extensive specialty books. However, for those interested in more detailed information at the end of the book the authors offer a brief but pertinent list

of references.

The therapeutic aspects of the skin diseases are described in an honest and up to date manner. Although in many instances several possible therapeutic approaches are listed, the authors nearly always give their opinion concerning which is their treatment of choice. They do not hesitate to mention a well established commercial preparation, when one

is available, which again makes this book useful and practical.

Thirty-two color plates together with 155 figures contribute to the understanding of the written text; the style of the book is concise, but at the same time very clear and readable. For those preparing for a state board or ECFMG examination this synopsis should be particularly useful.—*Thomas Rubio, M.D.* □

## Miscellaneous Advertisements

**WANTED: INTERNIST** or general practitioner to join a general surgeon and general practitioner in small progressive Oklahoma community. Fully equipped clinic. Fully accredited general hospital. Salary open. Study periods, retirement program and many fringe benefits. Excellent schools, churches and recreational facilities and time to enjoy them. Contact Key N. The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

**FOR SALE:** Improved Hugh H. Young tubular model urological x-ray table, Potter-Bucky diaphragm, Liebel Flarsheim, Ser. GU36314, L-F Model 27, Grid 36, 115 volt, 50-60 cycle. Complete with x-ray unit controls. Excellent condition. Contact Administrator, Talley-Walker Hospital, 501 North 4th Street, Marlow, Oklahoma 73055.

**POSITION WANTED** in student health service, industrial practice, insurance work, government health agency employment, or perhaps clinic practice. M.D. with experience in general practice, insurance exams, and industrial medicine, holds GS-13 and GS-14 ratings with Civil Service. Reference may be furnished. Contact Key A, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

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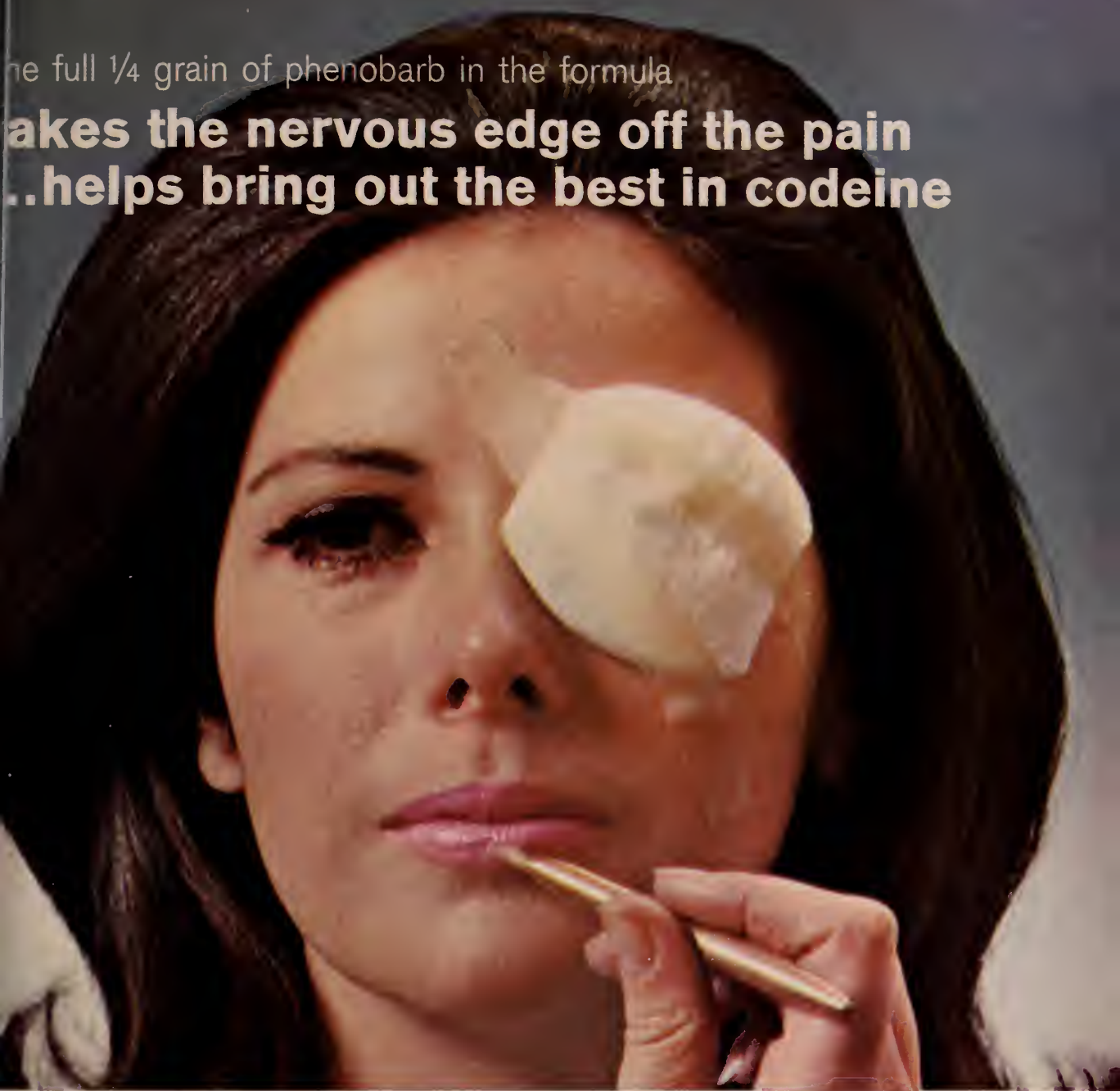
**OFFICE EQUIPMENT.** Late model diathermy machine; two examining table chairs; one examining table; desk, cabinets; sun-ray lamp; other office furniture. Contact Mrs. F. A. Sanger, 2633 Pembroke Terrace, Oklahoma City. Phone VI 3-1704.

**GENERAL PRACTITIONER** completing military service in July, 1967, would like to affiliate with small group in town of 5,000. 1964 graduate of the University of Oklahoma School of Medicine. Contact James R. Priest, M.D., 2793 USAF Dispensary, McClellan AFB, California.

**GENERAL SURGEON**, internist, family physician (generalist) interested in satisfying practice with time for home life. Long established mixed generalist and specialist group in greater Kansas City area. Rapidly growing community, excellent hospital facilities. Salary one year, then partnership. Contact D. M. Eubank, M.D., Raytown Clinic, 9406 East 63rd Street, Raytown, Missouri.



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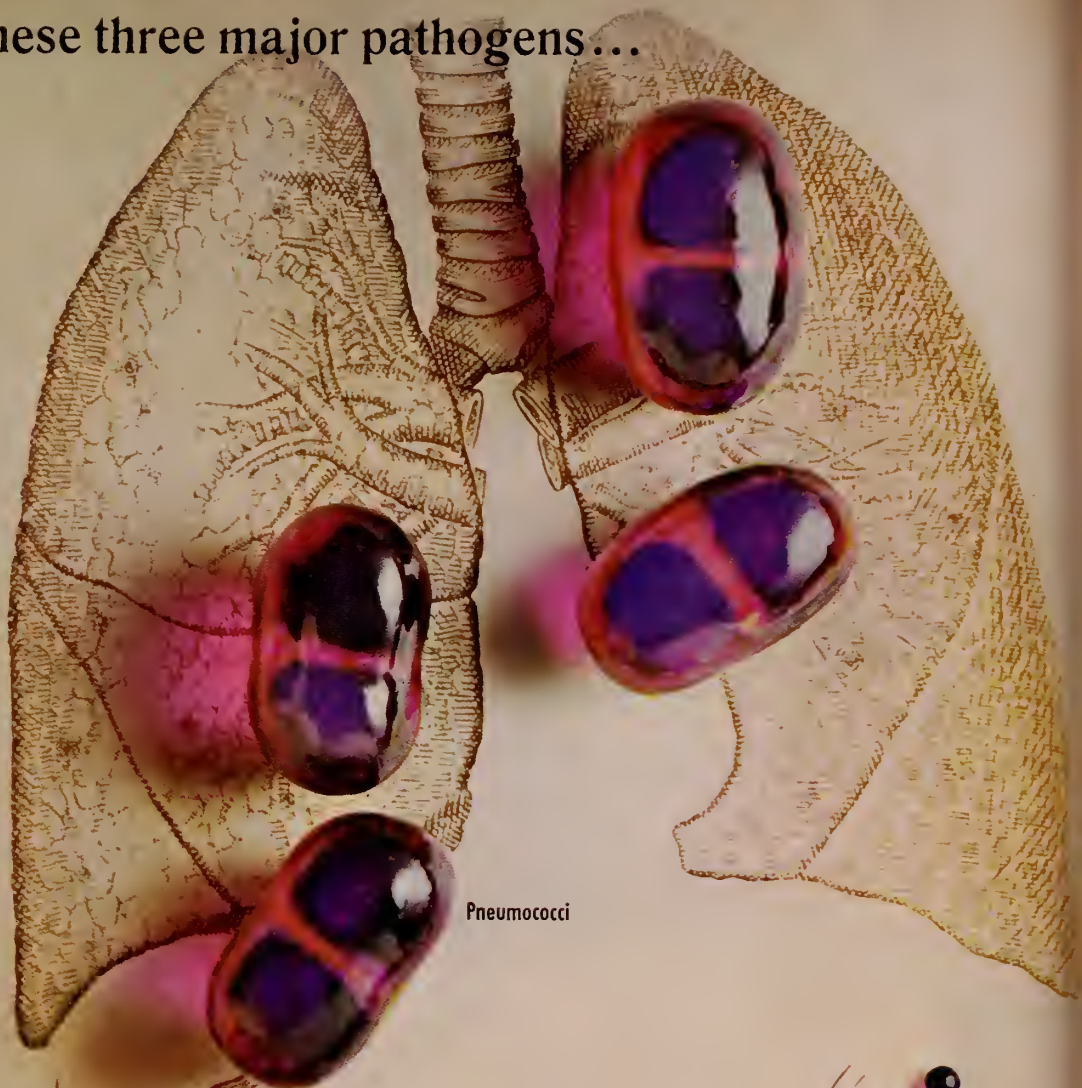
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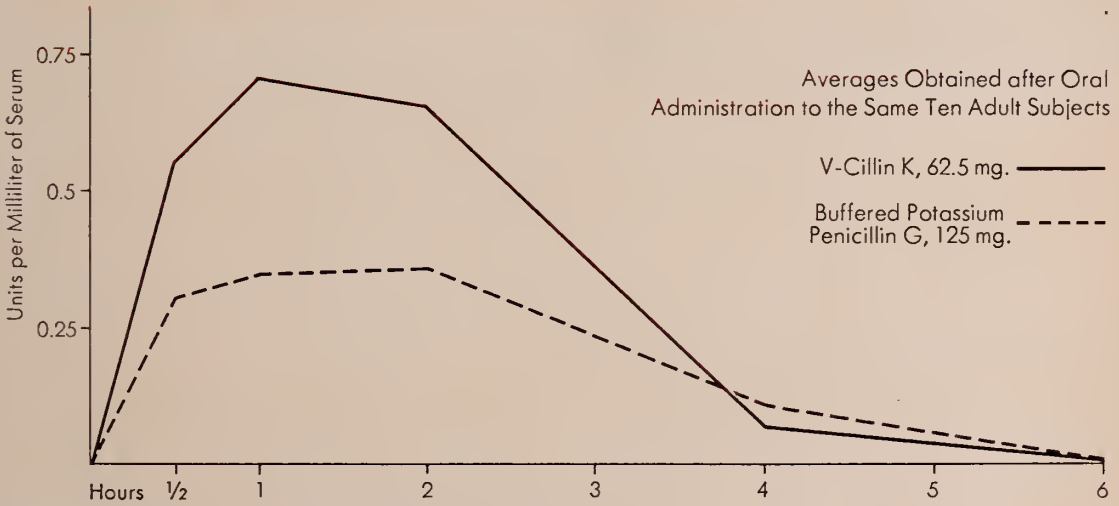
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	Median	Range	Median	Range	Median	Range
Penicillin V	0.02	0.02-0.04	0.02	0.003-0.4	0.01	0.005-0.2
Penicillin G	0.02	0.005-1.6	0.005	0.002-0.2	0.02	0.01-0.1
Methicillin	1.6	0.4-6.3	0.2	0.1-0.4	0.2	0.1-1.6
Oxacillin	0.4	0.1-3.1	0.04	0.02-0.4	0.1	0.04-0.8
Cloxacillin	0.2	0.2-0.8	0.1	0.1-0.8	—	—
Nafcillin	0.4	0.2-0.8	0.04	0.02-0.1	0.02	0.02-0.2
Ampicillin	0.2	0.1-0.8	0.02	0.01-0.04	0.02	0.01-0.04

Adopted from Klein, J. O., and Finland, M.: New England J. Med., 269 1019, 1963.

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Adapted from Griffith, R. S., and Black, H. R.: Current Ther. Res., 6:253, 1964.

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V-Cillin K, Pediatric, is an oral solution of clinically proved V-Cillin K in teaspoon dosage form. When mixed as directed, each 5 cc. (approximately one teaspoonful) will contain 125 mg. (200,000 units) phenoxymethyl penicillin as the potassium salt.

**Indications:** V-Cillin K has been shown to be effective in the treatment of streptococcus, pneumococcus, and gonococcus infections as well as infections caused by sensitive strains of staphylococci. It may be used for the prophylaxis of streptococcus infections in patients with a history of rheumatic fever and for the prevention of bacterial endocarditis after tonsillectomy and tooth extraction in those patients with a history of rheumatic fever or congenital heart disease.

**Contraindication:** V-Cillin K should not be administered to a patient with a history of penicillin hypersensitivity.

**Precautions:** V-Cillin K should be used cautiously, if at all, in a patient with a strongly positive history of allergy. Reactions occur more frequently in individuals with bronchial asthma or other allergies or in

those who have previously demonstrated sensitivity to penicillin. If severe hypersensitivity reactions occur, the drug should be discontinued.

**Adverse Reactions:** Although serious allergic reactions are much less common with administration of oral penicillin than with intramuscular forms, skin rash, symptoms resembling those of serum sickness, and other manifestations of penicillin allergy may occur. When penicillin is administered, measures for treating anaphylaxis should be readily available. Those include epinephrine, oxygen, and pressor drugs; relief of immediate allergic manifestations as well as antihistamines and corticosteroids for delayed effects.

The use of antimicrobial agents may be associated with the overgrowth of antibiotic-resistant organisms; in such a case, antibiotic administration should be stopped and appropriate measures taken.

**Administration and Dosage:** For Tablets V-Cillin K and for V-Cillin K, Pediatric, the usual dosage ranges from 125 mg. (200,000 units) three times a day to 500 mg. (800,000 units) every four hours. For infants, the daily dosage may be 50 mg. per Kg. of body weight divided into three doses.

Beta-hemolytic streptococcus infections without associated bacteremia may be treated with 200,000 to 400,000 units three times a day. Therapy should be continued for a minimum of ten days to prevent development of rheumatic fever and/or other serious complications. Dosage for routine streptococcus prophylaxis in patients with a history of rheumatic fever or congenital heart disease may be 200,000 units or more twice daily. When such patients undergo tonsillectomy, tooth extraction, or other minor surgery, the prophylactic dose should be 500,000 units every six hours given two days prior to surgery and for two days postoperatively. If oral medication is not feasible on the day of surgery, parenteral therapy should be considered. Mild to moderate severe pneumococcus pneumonia has been treated effectively with 250 mg. every six hours.

In staphylococcus infections, 400,000 units or more should be given every six to eight hours in conjunction with indicated surgical procedures.

For gonorrhea in males, 500 mg. (800,000 units) every six hours; three doses may be employed; in females, 500 mg. every four hours; six doses are recommended. Patients with a suspected lesion of syphilis should have a dark-field examination before receiving penicillin and monthly serologic tests for a minimum of three months.

**How Supplied:** Tablets V-Cillin K, U.S.P., 125 mg. (200,000 units) in bottles of 50 and 100; 250 mg. (400,000 units), and 500 mg. (800,000 units) in bottles of 24 and 100.

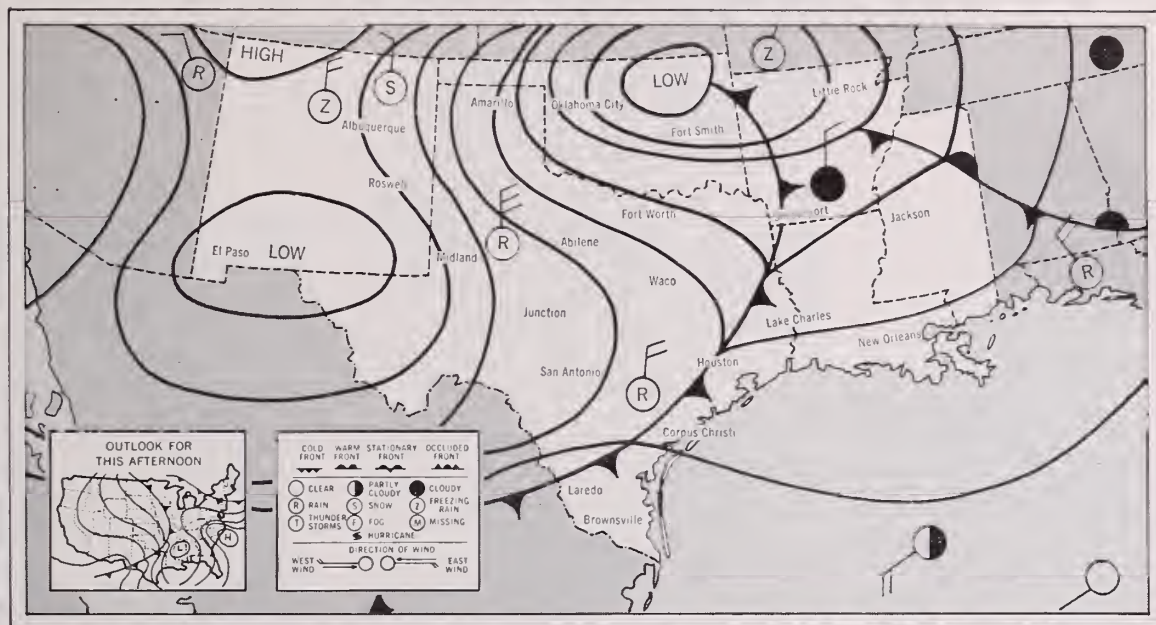
V-Cillin K, Pediatric, for Oral Solution, 125 mg. (200,000 units) per 5 cc. of solution, in 40, 80, and 150-cc.-size packages.

Additional information available to physicians upon request. Eli Lilly and Company, Indianapolis, Indiana 46206.

*Lilly*

# REGIONAL WEATHER FORECAST

Heavy Rains, Local Flooding, Sleet and Snow Followed by Cough, Stuffed and Runny Noses and Aches and Pains.



Tussagesic breaks up coughs, quickly clears stuffed and runny noses and relieves aches and pains. Provide coverage of the tough cold for up to 24 hours with just a single timed-release tablet dosed morning, midafternoon and at bedtime.

each

# Tussagesic®

**timed-release tablet contains:**

Triaminic® .....	50 mg.
(phenylpropanolamine hydrochloride 25 mg., pheniramine maleate 12.5 mg., pyrilamine maleate 12.5 mg.)	
Dextromethorphan hydrobromide .....	30 mg.
Terpin hydrate .....	180 mg.
Acetaminophen .....	325 mg.

**Dosage:** Adults—1 tablet, swallowed whole to preserve timed-release feature, in morning, midafternoon and at bedtime. **Side effects:** Occasional drowsiness, blurred vision, cardiac palpitations, flushing, dizziness, nervousness or gastrointestinal upsets. **Precautions:** The patient should be advised not to drive a car or operate dangerous machinery if drowsiness occurs. Use with caution in patients with hypertension, heart disease, diabetes or thyrotoxicosis.

**DORSEY LABORATORIES • a division of The Wander Company • LINCOLN, NEBRASKA**

# what time is it?

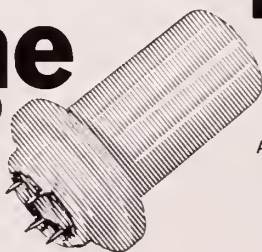
For the past  
two years  
there's been  
one new case  
of active tuberculosis  
reported for every  
four thousand  
of U.S. population.

## it's time to time.

### Tuberculin, Tine Test

(Rosenthal)

Lederle



Available in 5's and 25's.  
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representative.

LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York

414-G-4046R





# New low-cost tetracycline/antifungal therapy

for broad-spectrum activity  
plus specific antifungal prophylaxis  
at significant patient savings

Whenever tetracycline is indicated in these candidates for Candida:

1. diabetic patients



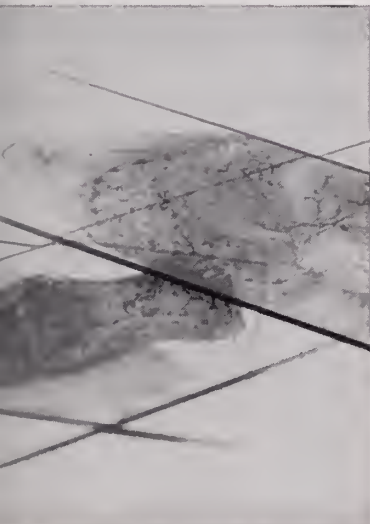
2. nonpregnant women with a history of recent  
or recurrent monilial vaginitis



3. elderly or debilitated patients



4. patients with a past history of moniliasis



5. patients on long-term tetracycline or cortico-  
steroid therapy



**BRISTOL THERAPEUTIC SUMMARY:** For complete information consult Official Package Circular. **Indications:** Infections of respiratory, gastrointestinal and genitourinary tracts and skin and soft tissues due to tetracycline-sensitive organisms, in patients with increased susceptibility to monilial infections. **Contraindications:** The drug is contraindicated in patients hypersensitive to its components. **Warnings:** Photodynamic reactions have been produced by tetracyclines. Natural and artificial sunlight should be avoided during therapy. Stop treatment if skin discomfort occurs. With renal impairment, systemic accumulation and hepatotoxicity may occur. In this situation, lower doses should be used. Tooth staining and enamel hypoplasia may be induced during tooth development (last trimester of pregnancy, neonatal period and childhood). **Precautions:** Bacterial superinfection may occur. Infants may develop increased intracranial pressure with bulging fontanels. In gonorrheal therapy, serologic tests for syphilis should be conducted initially and monthly for 3 months. **Adverse Reactions:** Glossitis, stomatitis, nausea, diarrhea, flatulence, proctitis, vaginitis, dermatitis, and allergic reactions may occur. **Usual Adult Dosage:** 1 capsule *q.i.d.* Continue therapy for 10 days in beta-hemolytic streptococcal infections. Administer one hour before or 2 hours after meals. **Supply:** Capsules, bottles of 16. Each capsule contains tetracycline phosphate complex equivalent to 250 mg. tetracycline HCl activity and 250,000 units of nystatin.

**BRISTOL**

BRISTOL LABORATORIES  
Division of Bristol-Myers Company  
Syracuse, New York

## Tetrex-F®

Each capsule contains tetracycline phosphate complex equivalent to tetracycline hydrochloride 250 mg. and nystatin, 250,000 units.

Tetrex-F is priced lower  
than most  
tetracycline-antifungal products.

LABSTIX

## new from Ames 5 basic uro-analytical facts in 30 seconds

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REAGENT STRIPS

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Urine test results with LABSTIX Reagent Strips can represent significant guides to differential diagnosis or therapy in many conditions. An unexpected "positive" may enable you to detect hidden pathology — long before more recognizable symptoms become evident. Negative results, which permit you to rule out abnormalities in a broad clinical range, can serve as baseline values for reference in future examinations. The 5 colorimetric test areas encompassed on LABSTIX Reagent Strips are:

**pH** — values are read numerically in the essential range of pH 5 to pH 9.

**Protein** — results are read either in the "plus" system or in mg. % in amounts approximating "trace," 30, 100, 300, and over 1000 mg. %.

**Glucose** — provides a "Yes-or-No" answer for urine "sugar spill."

**Ketones** — detects ketone bodies in urine — both acetoacetic acid and acetone. Reacts with as little as 5 to 10 mg. % of acetoacetic acid.

**Occult Blood** — specific test for intact red cells, hemoglobin or myoglobin. Results are read as negative, small, moderate or large amounts.

### Now a Clear Reagent Strip of Firm Construction

...facilitates handling during testing procedure. Excellent color contrast made possible by the clear plastic strip, together with the clearly defined color charts provided, permits precise, reproducible colorimetric readings in all 5 test areas. A more definitive interpretation of uro-analytical facts is made possible.

Available: LABSTIX Reagent Strips, bottles of 100 (color charts are supplied with each bottle).



Ames Company, Inc., Elkhart, Indiana

AMES





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■ Despite introduction of synthetic substitutes, efficacy of 'Empirin' Compound with Codeine remains unchallenged.

**'Empirin'® Compound with Codeine Phosphate gr. ½ No. 3**

Each tablet contains: Codeine Phosphate gr. ½ (Warning—May be habit forming), Phenacetin gr. 2½, Aspirin gr. 3½, Caffeine gr. ½.



**Keeps the Promise of Pain Relief**

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, N. Y.



**It's easy  
for children to get  
otitis media...**



# and Gantanol Suspension is a good way to help them get well

## proven effectiveness against major U.R.I. pathogens including beta-hemolytic strep

With Gantanol (sulfamethoxazole), bacteriologic conversion rates for beta-hemolytic streptococci are comparable to those generally seen with penicillin, and apparently superior to those cited in the literature for erythromycin and the broad-spectrum antibiotics.<sup>1,2</sup> With conversion rates ranging from a high of 96% in 229 patients<sup>2</sup> and 98% in 96 cases<sup>3</sup> to 65% in 105 cases,<sup>5,6</sup> Gantanol (sulfamethoxazole) Suspension is an effective alternative therapy in patients sensitive to penicillin, the drug of choice in known beta-hemolytic streptococcal infections.

In addition to this effectiveness against beta-hemolytic streptococci,<sup>1-9</sup> bacteriologic conversion rates have averaged 69% for *D. pneumoniae* (103 of 150 patients),<sup>3,6,7</sup> 78% for *H. influenzae* (42 of 54 patients),<sup>3,4,7</sup> and 67% for *Staph. aureus* (76 of 113 patients).<sup>3,4,6,7</sup> It is this wide spectrum of activity which makes Gantanol (sulfamethoxazole) Suspension a good choice in acute pharyngitis, tonsillitis and otitis media.

### beta-hemolytic strep



### Staph. aureus



### D. pneumoniae



### H. influenzae



## therapy generally uncomplicated by side effects

Over 8 out of 10 U.R.I. patients—87% of 2231 patients—showed an excellent to satisfactory clinical response to Gantanol (sulfamethoxazole).<sup>1-13</sup> Such favorable results are even more meaningful in view of the fact that only 1.1% of the more than 2000 cases cited discontinued therapy because of side effects. Of the total side effects reported (4.6%), most were mild and included rash, urticaria, itching, dizziness, headache, diarrhea, nausea and vomiting, shivering sensation, skin discoloration and crystalluria.<sup>1-13</sup>

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Acute and chronic respiratory and urinary tract bacterial infections due to susceptible microorganisms. At present penicillin is considered the drug of choice in acute group A beta-hemolytic streptococcal infections; however, Gantanol (sulfamethoxazole) has shown an effectiveness approaching that of penicillin in a large number of patients. If employed in such infections, it is important that therapy be continued in the usual recommended dosage for a period of at least 10 days.

**Contraindicated** in sulfonamide-sensitive patients, pregnant females at term, premature infants or infants during first 3 months of life.

**Warnings:** Use only after critical appraisal in patients with liver damage, renal damage, urinary obstruction or blood dyscrasias. If toxic or hypersensitivity reactions or blood dyscrasias occur, discontinue therapy. In intermittent or prolonged therapy, blood counts and liver and kidney function tests should be performed. Data insufficient on prolonged or recurrent therapy in chronic renal diseases of children.

**Precautions:** Observe usual sulfonamide therapy precautions, including maintenance of an adequate fluid intake. Use with caution in patients with histories of allergies and/or asthma. Patients with impaired renal function should be followed closely since renal impairment may cause excessive drug accumulation. Occasional failures may occur due to resistant microorganisms. Not effective in virus or rickettsial infections.

**Adverse Reactions:** Following may occur: headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, Stevens-Johnson syndrome, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

**Dosage:** Children—1 teasp./20 lbs initially, followed by ½ teasp./20 lbs b.i.d. Adults—4 teasp. initially, followed by 2 teasp. b.i.d. or t.i.d., depending upon severity of infection.

**How Supplied:** Suspension 10%, 0.5 Gm sulfamethoxazole/5 cc teasp., cherry-flavored, bottles of 16 oz.

**References:** 1. Braden, B.; Colmore, J. P., and Cummings, M. M.: *Antimicrobial Agents Annual*—1960, p. 54. 2. Alban, J.: *Am. J. Dis. Child.*, 109:304, 1965. 3. Elia, J. C.: *Eye Ear Nose & Throat Month.*, 41:722, 1962. 4. Carter, C. H.: *Clin. Med.*, 71:1571, 1964. 5. Jackson, H.; Cooper, J.; Mellinger, W. J., and Olsen, A. R.: *Southwestern Med.*, 44:246, 1963. 6. Reichelderfer, T. E.: *Clin. Med.*, 71:1045, 1964. 7. Peters, J. H.: Scientific Exhibit presented at the Spring Meeting of the American Academy of Pediatrics, April 26-29, 1965. 8. Peters, J. H.: *Antimicrobial Agents and Chemotherapy*—1961, p. 406. 9. Braden, B., and Colmore, J. P.: *J. Oklahoma M. A.*, 57:7, 1964. 10. Chastain, P. J.: *J. Florida M. A.*, 48:816, 1962. 11. Grater, W. C.: *Antibiotics & Chemother.*, 12:450, 1962. 12. Exline, A. L.: *Colorado GP*, 5(5), 11, 1963. 13. Patton, J. M.: *West. Med.*, 5:46, 1964.

for optimal therapeutic response, remember the initial loading dose each time you prescribe Gantanol (sulfamethoxazole) Suspension

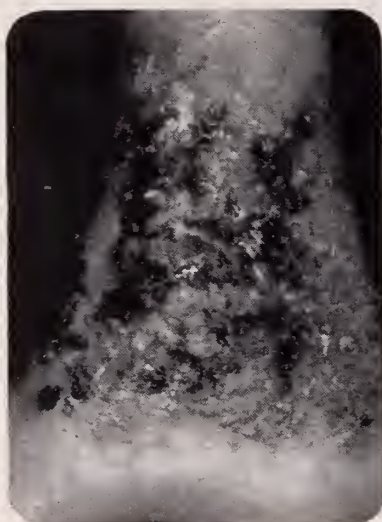
**Gantanol<sup>®</sup>**  
(sulfamethoxazole)  
**Suspension**

Roche Laboratories  
Division of Hoffmann - La Roche Inc.  
Nutley, New Jersey 07110

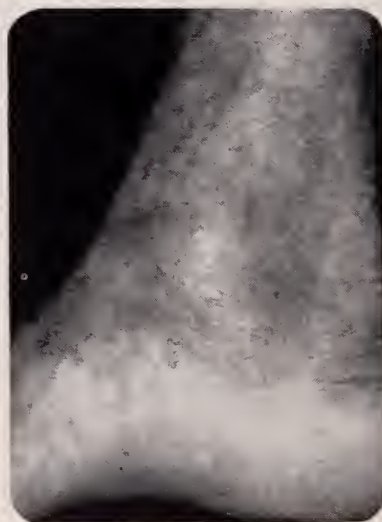




# Eczema of many years... controlled in two weeks



Before treatment



After treatment—  
with ARISTOCORT Topical  
Ointment 0.1% for two weeks

ARISTOCORT® Triamcinolone Acetonide Topicals have proved exceptionally effective in the control of various forms of eczema: allergic, atopic, nummular, psoriatic, and mycotic.

In most cases responsive to topical ARISTOCORT, the 0.1% concentration is sufficiently potent. The 0.5% concentration provides enhanced topical activity for patients requiring additional potency for proper relief.

*Administration and Dosage:* Apply sparingly to the affected area 3 or 4 times daily. Some cases of psoriasis may be more effectively treated if the 0.1% Cream or Ointment is applied under an occlusive dressing.

*Contraindications:* Tuberculosis of the skin, herpes simplex, chicken pox and vaccinia.

*Precautions and Side Effects:* Do not use in the eyes or in the ear (if drum is perforated). A few individuals react unfavorably under certain conditions. If side

effects are encountered, the drug should be discontinued and appropriate measures taken. Use on infected areas should be attended with caution and observation, bearing in mind the potential spreading of infection and the advisability of discontinuing therapy and/or initiating antibacterial measures. Generalized dermatological conditions may require systemic corticosteroid therapy. Steroid therapy, although responsible for remissions of dermatoses, especially of allergic origin cannot be expected to prevent recurrence. The use over extensive body areas, with or without occlusive non-permeable dressings, may result in systemic absorption. Appropriate precautions should be taken. When occlusive nonpermeable dressings are used, miliaria, folliculitis and pyoderma will sometimes develop. Localized atrophy and striae have been reported with the use of steroids by the occlusive technique. When occlusive nonpermeable dressings are used, the physician should be aware of the hazards of suffocation and flammability. The safety of use on pregnant patients has not been firmly established. Thus, do not use in large amounts or for long periods of time on pregnant patients.

Available in 5 Gm. and 15 Gm. tubes and ½ lb. jars.

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## Aristocort®

Topical Ointment 0.1% and Cream 0.1%, 0.5%  
Triamcinolone Acetonide

Also available in foam form.



LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York



**DIARRHEA  
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SPASTIC URETERITIS  
BLADDER SPASM**

*are relieved with.....*

  
**Trocinat<sup>®</sup>**  
**BRAND THIPHENAMIL HCl**

Minimum dosage 400 mg., q. 4 h. until relief is constant, adjust maintenance dosage.

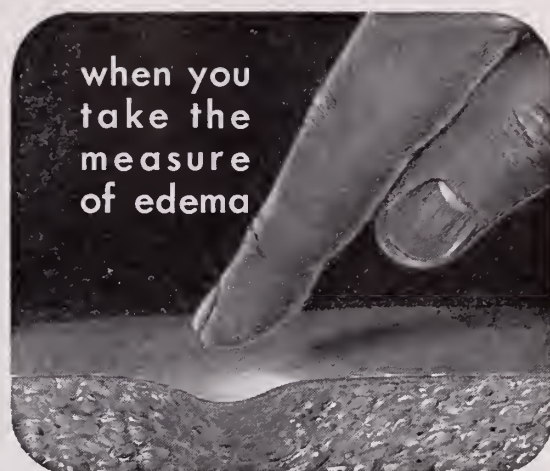
A therapeutic blood level cannot be obtained with small dosage. Trocinat is metabolized and eliminated in the urine as harmless degradation products—a safety factor. Sixteen years of clinical usage with the absence of untoward effects establishes the safety of Trocinat. The autonomic nervous system is not involved in its prompt action.

NOW AVAILABLE IN 2 STRENGTHS,  
100 mg. and 400 mg.  
PINK SUGAR-COATED TABLETS

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... introduce your patient to  
**aquaTAG<sup>®</sup>**  
(BENZTHIAZIDE)

AQUATAG (Benzthiazide) is a potent, orally active, nonmercurial, diuretic agent. It is effective orally in producing diuresis in edema states, where it is therapeutically comparable to mercurials given parenterally. AQUATAG (Benzthiazide) is mildly antihypertensive in its own right and enhances the action of other antihypertensive drugs when used in combination.

**DIURETIC ACTION:** Clinically, the oral administration of AQUATAG (benzthiazide) results in diuretic activity within two hours with maximal natriuretic, chloruretic, and diuretic effects occurring during the fourth, fifth and sixth hours. Maintenance of response continues for approximately 12 to 16 hours. Acidosis is an unlikely complication since therapeutic doses of AQUATAG (benzthiazide) do not appreciably increase bicarbonate excretion. Edematous patients receiving 50 mg. of AQUATAG (benzthiazide) daily for five days developed a maximal increase in the rate of sodium excretion on the first day, and maintained this high rate until depletion of excessive body stores of sodium.

In congestive heart failure patients, AQUATAG (benzthiazide) produced the same weight loss, during a 48-hour treatment period as did a maximally effective dose of hydrochlorothiazide.

**DOSAGE:** Diuresis, initially 50 to 200 mg.; maintenance 25 to 150 mg., daily. Hypertension 50 to 100 mg. initially, adjusted to 50 mg. i.i.d. or downward to minimal effective dosage level.

**WARNINGS:** Use with caution in the presence of renal disease as azotemia may be precipitated or increased. In patients with advanced hepatic disease, electrolyte imbalance may result in hepatic coma. Dosage of coadministered antihypertensive agents should be reduced by at least 50%. In cases of suspected electrolyte imbalance, serum electrolyte determinations should be performed and imbalance, if any, corrected. Stenosis or ulcer of small intestine have been reported with coated potassium formulas, and surgery has been required and deaths have occurred. Based on surveys of both United States and foreign physicians, incidence of these lesions is low and a causal relationship in man has not been definitely established. Until further experience has been obtained, the use of the drug in pregnant patients should be weighed against possible hazards to the fetus.

**CONTRAINDICATIONS:** AQUATAG (benzthiazide) is contraindicated in progressive renal disease or dysfunction including increasing oliguria and azotemia. Continued administration of this drug is contraindicated in patients who show no response to its diuretic or antihypertensive properties. Severe hepatic disease is a relative contraindication. (See "Warnings" above.)

**PRECAUTIONS AND SIDE EFFECTS:** Electrolyte imbalance with hypokalemia (digitalis toxicity may be precipitated), hypochloremic alkalosis and hyponatremia may occur. Patients with cirrhosis should be observed for impending hepatic coma and hypokalemia. Other reactions may include blood dyscrasias, hyperuricemia and gout, nausea, jaundice, anorexia, vomiting, diarrhea, dizziness, paresthesia, photosensitivity and headache. Hepatic tetor, tremor, confusion and drowsiness are signs of impending pre coma and coma in patients with cirrhosis. Insulin requirements may be altered in diabetes. AQUATAG (benzthiazide) should be used with caution post-operatively as hypokalemia is not uncommon. Potassium supplementation may be advisable pre- and post-operatively. There have been occasional reports of thrombocytopenia, leukopenia, agranulocytosis, aplastic anemia and precipitation of acute pancreatitis or jaundice.

Before prescribing or administering, read the package insert or file card available on request.

Available as 25 or 50 mg. scored tablets.

Request clinical samples and literature on your letterhead.



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& COMPANY**  
Detroit, Michigan 48234



fluocinolone acetonide — an original steroid from

**SYNTEX**   
LABORATORIES INC., PALO ALTO, CALIF.



# controls infected inflammatory dermatoses that start from scratch



**Neo-Synalar®**  
(fluocinolone acetonide-neomycin sulfate cream)  
**Cream**

The "itch-scratch" cycle usually associated with inflammation often results in infected dermatoses because broken skin surfaces are particularly vulnerable to pathogenic bacteria.<sup>1</sup> To treat infected inflammatory dermatoses, Neo-Synalar Cream combines the most active topical corticosteroid with a highly reliable antibiotic generally reserved for topical application.

In Neo-Synalar, fluocinolone acetonide controls the inflammation and provides rapid relief from associated pruritus. At the same time, its antibacterial component—neomycin—combats superficial infection caused by many gram-positive and gram-negative bacilli<sup>2</sup> that often colonize and thrive on abraded skin.<sup>1</sup>

A specially formulated vanishing cream base that is greaseless and odor free makes Neo-Synalar cosmetically appealing, and encourages greater patient cooperation.

---

## controls the infection

---

## stops the scratch

---

**Contraindications:** Tuberculous, fungal, and most viral lesions of the skin (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of its components. **Precautions:** Neomycin rarely produces allergic reactions. Prolonged use of any antibiotic may result in overgrowth of nonsusceptible organisms; if this occurs, appropriate therapy should be instituted. Where severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for prolonged periods of time. **Side Effects:** Side effects are not ordinarily encountered with topical corticosteroids. As with all drugs, however, a few patients may react unfavorably to Neo-Synalar under certain conditions. **Availability:** Neo-Synalar Cream (0.025% fluocinolone acetonide, neomycin sulfate, equivalent to 0.35% neomycin base), 5 and 15 Gm. tubes.

**References:** 1. Pillsbury, D. M., Shelley, W. B., and Kligman, A. M.: A manual of cutaneous medicine, Philadelphia, Saunders, 1961, p. 79. 2. Barber, M., and Garrod, L. P.: Antibiotic and chemotherapy, Baltimore, Williams and Wilkins, 1963, p. 111.



**It works.**

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you never  
get tired of.**



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**DEPARTMENT OF OUT PATIENT PSYCHIATRY**

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With Hygroton, you'll discover that you can almost always use fewer tablets than is possible with other diuretics.

You may be told that a new short-acting diuretic was found more effective than Hygroton in congestive heart failure—but this was when twice the manufacturer's maximum recommended dose was given.\* At the maximum recommended dose for both diuretics, two tablets of Hygroton were far and away more effective than five tablets of the other diuretic in producing natruresis and weight loss. And at these dosages, Hygroton costs only  $\frac{1}{3}$  as much as the other diuretic.

Since the discovery of chlorothiazide, the trend has been away from short-acting, multiple-dose, high-cost diuretics. With Hygroton you can usually do the job with just one tablet a day, or every other day.

More than any of the newer diuretics, Hygroton brings dosage and cost of medication down to earth.

\*Brest, A. N., et al.: J. New Drugs 5:329, 1965.

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chlorthalidone

**Indications:** Hypertension and many types of edema involving retention of salt and water. **Contraindications:** Hypersensitivity and most cases of severe renal or hepatic disease. **Warning:** With administration of enteric-coated potassium supplements, the possibility of small bowel lesions should be kept in mind. **Precautions:** Reduce dosage of concomitant antihypertensive agents by at least one-half. Discontinue if the BUN rises or liver dysfunction is aggravated. Electrolyte imbalance and potassium depletion may occur; take special care in cirrhosis or severe ischemic heart disease, and in patients receiving corticosteroids, ACTH, or digitalis. Salt restriction is not recommended. **Side Effects:** Dizziness, weakness, nausea, vomiting, hyperglycemia, hyperuricemia, headache, muscle cramps, postural hypotension, constipation, leukopenia, thrombocytopenia, agranulocytosis, impotence, dysuria, transient myopia, skin reactions, including urticaria and purpura, epigastric pain, or G.I. symptoms after prolonged administration. **Average Dosage:** One tablet (100 mg.) with breakfast daily or every other day. **Availability:** Tablets of 100 mg. in bottles of 100 and 1000. For full details, see the complete prescribing information. 6524-V(B)

HY-4735

Geigy Pharmaceuticals  
Division of Geigy Chemical Corporation, Ardsley, New York

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How long will it take him  
to recover from the flu  
if he just doesn't care?



Does he really care?  
Is he alert, encouraged,  
positive and optimistic  
about getting out of bed  
and back to work soon?

Or is he giving in to  
the depressing impact  
of confinement?

When functional fatigue  
complicates convalescence,  
Alertonic can help...

Pleasant-tasting Alertonic is pipradrol hydrochloride—an effective cerebral stimulant whose gentle analeptic action helps counteract the apathy and inertia that so often delay convalescence—together with an excellent vitamin and mineral formula, in a satisfying 15% alcohol vehicle.

Nothing fosters confidence and a sense of well-being better than your own personal warmth, understanding and encouragement together with Alertonic to help insure prompt response.

*Adequate dosage is important: Prescribe Alertonic—one tablespoonful t.i.d., 30 minutes before meals...tastes best chilled.*

*And for your patient's sake, prescribe Alertonic in the convenient, economical one-pint bottle.*

# Alertonic®

*Available Only On Prescription*

Each 45 cc. (3 tablespoonfuls) contains: alcohol, 15%; pipradrol hydrochloride, 2 mg.; thiamine hydrochloride (vitamin B<sub>1</sub>) (10 MDR\*), 10 mg.; riboflavin (vitamin B<sub>2</sub>) (4 MDR), 5 mg.; pyridoxine hydrochloride (vitamin B<sub>6</sub>), 1 mg.; niacinamide (5 MDR), 50 mg.; choline,† 100 mg.; inositol,† 100 mg.; calcium glycerophosphate, 100 mg. (supplies 2% MDR for calcium and for phosphorus) and 1 mg. each of the following: cobalt (as chloride), manganese (as sulfate), magnesium (as acetate), zinc (as acetate), and molybdenum (as ammonium molybdate).

\*Multiple of adult Minimum Daily Requirement supplied.

†The need for these substances in human nutrition has not been established.

**Indications:** 1. Functional fatigue such as that often associated with: a depressing life experience or stressful time of life; advancing years; convalescence; limited activity or confinement. 2. Poor appetite and vitamin-mineral deficiency as they occur in: patients having faulty eating habits; geriatric patients who are losing interest in food; patients convalescing from debilitating illness or surgery.

**Contraindications:** As with other drugs with CNS stimulating action, Alertonic is contraindicated in hyperactive, agitated or severely anxious patients and in chorea or obsessive compulsive states.

**Side effects:** Reports of overstimulation have been rare. Patients who are known to be unduly sensitive to the effects of stimulant drugs should be observed carefully in the initial stages of treatment.

**Dosage:** Adults, 1 tablespoonful; children (over 15 years old), 1 to 2 teaspoonfuls; children (4 to 15 years old), 1 teaspoonful. To be taken three times daily 30 minutes before meals.

**Merrell**

THE WM. S. MERRELL COMPANY  
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# **New—Two Pediatric Forms of Erythromycin and Triple Sulfas**



## **ERYTHROCIN®-SULFAS Chewable** (Erythromycin ethyl succinate-trisulfapyrimidines chewable tablet)

In clinical trials<sup>1,2</sup>, this orange-flavored tablet was given to 55 patients, aged four months to 18 years.

Diagnoses (multiple in some cases) represented a cross section of bacterial infections commonly seen in pediatric office practice.

Therapy was given from three to 12 days, with an average of six days.

Of the 55 patients, 30 were reported cured within 72 hours, while 22 showed partial recovery within the same time, and subsequent clinical cure.

**A clinical cure rate of 94.5%**

## **ERYTHROCIN®-SULFAS Granules** (Erythromycin ethyl succinate-trisulfapyrimidines granules for oral suspension)

87 patients were treated<sup>1,2</sup>—all children, ages four months to 15 years.

The diagnoses were multiple in some cases and were chiefly bacterial infections of the respiratory tract.

Dosage was maintained from three to 10 days; average treatment was five days. All of the ill children accepted the orange-flavored suspension favorably.

53 were clinically cured within 72 hours, while 32 showed partial relief within the same time, and subsequent clinical cure.

701358

**A clinical cure rate of 97.7%**

1. Case Reports on File, Dept. Clin. Development, Abbott Laboratories.
2. Polley, R.F.L., Use of Erythromycin-Sulfas in Office Practice, Western Med., 7:177, July, 1966.



Brief  
Summary  
on next  
page

## ERYTHROCIN®-SULFAS

### Brief Summary

**Contraindications:** Known sensitivity to erythromycin or sulfonamides. Because of the possibility of kernicterus with sulfonamides, do not use in pregnancy at term, premature or newborn infants.

**Warnings:** As with other forms of sulfonamide therapy, carefully evaluate patients with liver or kidney damage, urinary obstruction, or blood dyscrasia. Deaths have been reported from hypersensitivity reactions and blood dyscrasias following use of sulfonamides. Perform blood counts and liver and kidney function tests if used repeatedly at close intervals or for long periods.

**Precautions, Side Effects:** Occasionally mild abdominal discomfort, nausea or vomiting may occur with erythromycin, generally controlled by reduction of dosage. Mild allergic reactions (such as urticaria and other skin rashes) may occur. Serious allergic reactions have been extremely infrequent. Use sulfonamides with caution in patients with a history of allergy. Assure adequate fluid intake to prevent crystalluria and institute alkali therapy if indicated. If overgrowth of nonsusceptible organisms occurs, withdraw the drug and institute appropriate treatment. If a patient should show signs of hypersensitivity, appropriate countermeasures (e.g. epinephrine, steroids, etc.) should be administered and the drug withdrawn.

**Adverse Reactions:** Sulfonamide therapy may be associated with headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

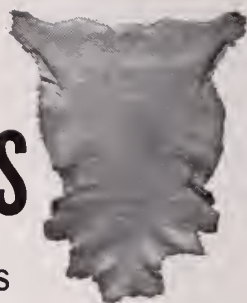
Side effects due to erythromycin are infrequent, but occasional abdominal discomfort, nausea, or vomiting, urticaria and other skin rashes may occur.

**Supplied:** The Granules for Oral Suspension come in bottles of 60 ml. and 150 ml. The Chewable tablets are in bottles of 50. Each 5-ml. teaspoonful of reconstituted Granules or each Chewable tablet provides erythromycin ethyl succinate equivalent to 125 mg. of erythromycin activity and 167 mg. of each of sulfadiazine, sulfamerazine and sulfamethazine.

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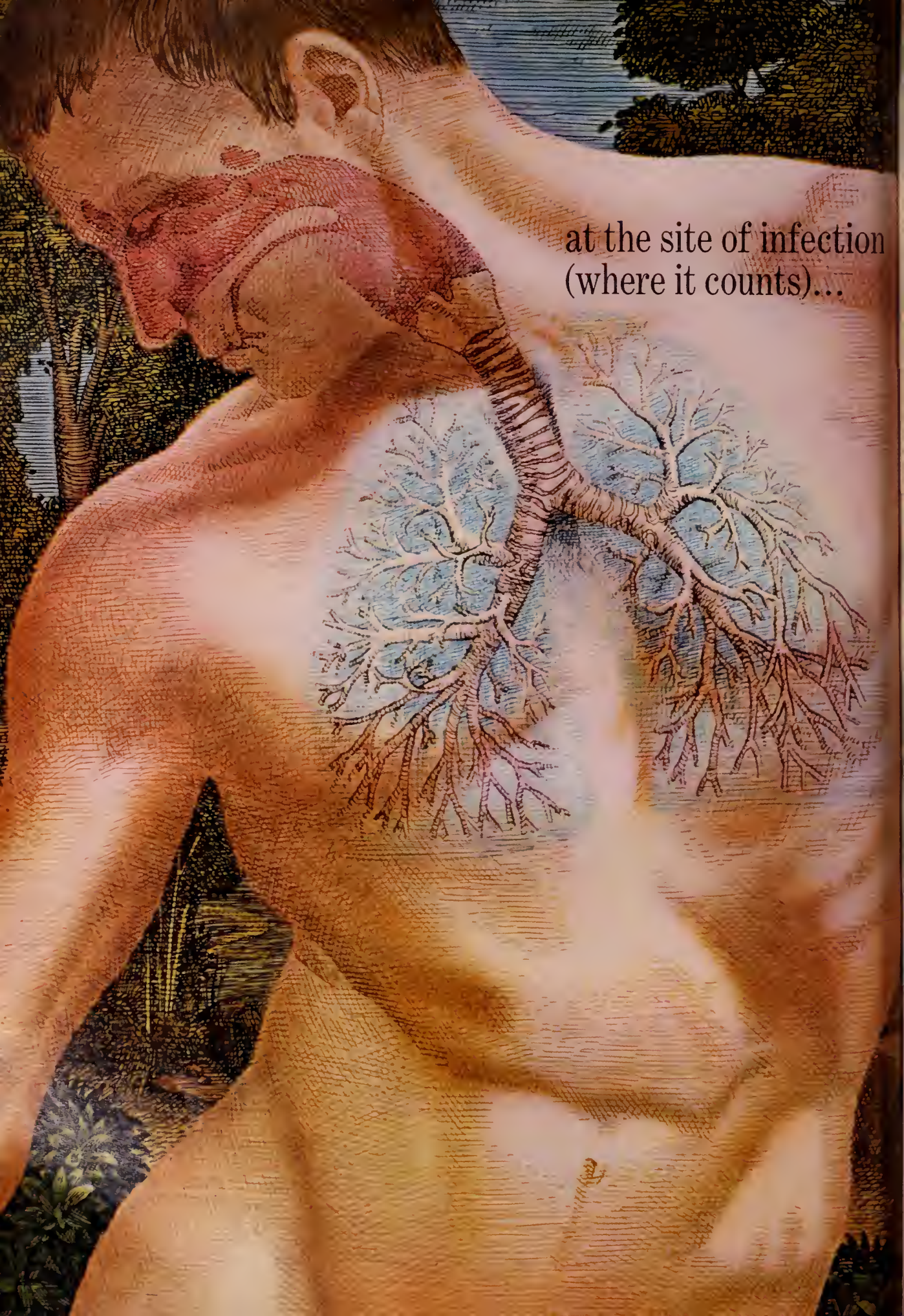
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Because it is the most active form of oral erythromycin, Ilosone can help assure consistently greater antibacterial activity at the site of infection. Ilosone produces peak antibacterial blood levels two to four times those of other erythromycin preparations.<sup>1,2</sup> Not only are these levels attained earlier, but they are maintained for much longer periods. Even the presence of food does not seem to affect the activity of Ilosone.<sup>1,3</sup>

In the treatment of patients with bacterial infections susceptible to erythromycin, Ilosone has compiled an excellent therapeutic record. Since it exerts its greatest activity against gram-positive organisms, it is particularly useful in common respiratory and soft-tissue bacterial infections. Ilosone kills—not merely inhibits—streptococci, pneumococci, and more strains of

staphylococci than any other macrolide antibiotic. This bactericidal action, coupled with the high antibacterial levels attained, makes Ilosone especially valuable in patients with low host resistance, such as infants, debilitated individuals, and diabetics.

Ilosone has shown no cross-resistance with penicillin and may be effective against organisms that have become resistant to that agent. Despite its high antibacterial activity, Ilosone has demonstrated a low incidence of side reactions. Blood dyscrasias, ototoxicity, and tooth staining have not been observed. Infrequent cases of drug idiosyncrasy, manifested by a cholestatic jaundice, have occurred, but there have been no known definite residual effects.

**Ilosone®**   
Erythromycin Estolate

*(See next page for prescribing information.)*



# Ilosone®/ the most active oral form of erythromycin

**Description:** Ilosone is the most active form of oral erythromycin that has been developed. Because it is stable in acid, well absorbed, and excreted in lesser amounts in the bile, it provides faster, higher, and longer-lasting levels of antibacterial activity (ABA) in the serum, even when taken with food, than do comparable doses of erythromycin.

**Indications:** Ilosone is indicated in infections caused by microorganisms sensitive to its action (especially staphylococci, hemolytic streptococci, and pneumococci). The drug is therefore useful in a high proportion of bacterial diseases encountered in clinical practice and particularly in the treatment of bacterial infections of the upper and lower respiratory tract and soft tissues.

In the treatment of acute bacterial pharyngitis and tonsillitis, this antibiotic has promptly eradicated the bacteria (streptococci) and has produced a parallel prompt clinical improvement. There have been no group A beta-hemolytic streptococci resistant to this preparation. In beta-hemolytic streptococcus infections, treatment should be maintained for ten days to prevent the development of rheumatic fever or glomerulonephritis.

Erythromycin estolate has proved to be very effective in pneumococcus pneumonia and in acute bronchitis with pneumococci on culture. Bronchopneumonia and otitis media in children have responded well to its use.

The antibiotic has been used very successfully in staphylococcus infections. Good therapeutic results have been obtained in soft-tissue infections, abscesses, cellulitis, carbuncles, wound infections, and furunculosis.

In serious staphylococcus infections, erythromycin preparations should be used only in combination therapy with other antimicrobial agents. As is the case with any treatment regimen used in these severe conditions, surgical procedures should be performed when indicated, and large dosages of the antimicrobial agents should be employed. In this fashion, Ilosone has been effective in staphylococcus pneumonia, osteomyelitis, septicemia, empyema, and meningitis.

Multiple 500-mg. doses of the drug have been useful in gonorrhea and syphilis. Since penicillin is the drug of choice for the treatment of syphilis and gonorrhea, erythromycin estolate should be employed for these infections only in patients with a history of penicillin allergy. Also, other infections due to susceptible bacteria in patients known to be hypersensitive to penicillin or other antibiotics may be considered for treatment with Ilosone. **Contraindications:** Ilosone is contraindicated in patients with a known history of sensitivity to this drug and in those with pre-existing liver disease or dysfunction.

**Side-Effects:** Data obtained from seven years' use of propionyl erythromycin ester and erythromycin estolate (Ilosone) indicate that hepatic dysfunction with or without clinical jaundice may occur during or following courses of therapy with the drug.

Changes in liver function tests in such cases have been indicative of intrahepatic cholestasis. The symptoms appear to be the result of a form of sensitization. The initial symptoms have appeared in some cases after a few days of treatment but generally have followed one or two weeks of continuous therapy or several courses of the drug. Symptoms reappear promptly if the drug is readministered to sensitive patients, usually within forty-eight hours. Eosinophilia was noted in peripheral blood counts. The findings readily subsided without apparent residual effects when treatment was discontinued. Recovery was delayed in one reported instance. The physician indicated in this case that either drug-induced jaundice or viral hepatitis may have been responsible for the findings.

In one clinical study involving ninety-three patients treated with the antibiotic, three cases of jaundice were observed and an additional eleven cases developed some changes in liver function tests. Three of the patients had abnormal liver function tests a second time on readministration of the drug.

Even though it is assumed that not all cases of jaundice have been reported, it seems clear that the number is small compared with the amount of drug that has been used. Reported cases have included persons in whom there had been administered other drugs known to be associated at times with hepatic side-effects and cases in which the presence of viral hepatitis or other disease may have been responsible for the findings. In some of the cases, associated gastro-intestinal symptoms simulated the colic of biliary tract disease. In other instances, clinical symptoms and results of liver function tests resembled findings in extrahepatic obstructive jaundice. It appears that the occurrence of jaundice after administration of Ilosone is infrequent, but further investigations are being made to estimate its incidence more accurately.

In those cases mentioned above in which jaundice appeared to

be definitely related to use of the drug, laboratory findings characterized by increased direct-reacting bilirubin, elevated alkaline phosphatase levels, negative or weakly positive cephalofluorescent flocculation and thymol turbidity tests, elevated serum glutamic oxalacetic transaminase levels, peripheral eosinophilia, and abnormal cholecystograms.

Individual idiosyncrasy seems evident since jaundice has been reported in other patients taking prolonged courses of medication. Patients with chronic infection have been given to 2 Gm. of the drug daily for periods of two to six months. Patients with rheumatic fever have taken prophylactic doses of 0.5 Gm. daily for two years without difficulty. In one group of 144 patients who received the drug daily for two years, no jaundice was noted. It was of interest that members of six of the patients' families, who were not taking the drug, had episodes of jaundice during the study period.

Transaminase and serum alkaline phosphatase levels, determined in a group of fifty-four adults and children who received 250 mg. of Ilosone daily for an average of sixteen months for rheumatic fever prophylaxis. The results were compared with those of a similar group of forty-four patients who received penicillin. There were no cases of jaundice in either group. Elevations of SGPT and serum alkaline phosphatase levels during the course of treatment was observed in one patient treated with Ilosone and in two patients treated with penicillin. Seven other patients in the group receiving Ilosone and four others in the penicillin group showed elevations in one of the tests at some time during administration of the drugs.

Very satisfactory therapeutic results, without toxicity, were reported in 102 pediatric patients who received short-term (one to five day) courses of Ilosone in the treatment of streptococcal infections. Results of liver function tests in these patients were comparable to those in a similar control group who had received penicillin.

Gastro-intestinal disturbances not associated with hepatic effects are observed in a small proportion of individuals as a result of a local stimulating effect of the medication on the alimentary tract; however, the normal intestinal gram-negative bacterial flora is not appreciably altered by erythromycin drugs.

Although allergic manifestations are uncommon with therapy of erythromycin, there have been occasional reports of urticarial skin eruptions, and, on rare occasions, anaphylaxis.

**Administration and Dosage:** Ilosone is administered orally. Ilosone Pulvules®, Ilosone Chewable Tablets, Ilosone Drops, Ilosone, 125, for Oral Suspension

For infants and for children under twenty-five pounds of weight, the usual dosage is 5 mg. per pound every six hours. For children twenty-five to fifty pounds, 125 mg. every six hours. (Tablets Ilosone Chewable should be chewed or crushed and swallowed with water.)

For adults and for children over fifty pounds, the usual dosage of Ilosone is 250 mg. every six hours.

For severe infections, these dosages may be doubled.

When larger doses are indicated, parenteral erythromycin therapy should be considered.

In the treatment of syphilis, the recommended total dosage is 20 to 30 Gm. given in divided doses for a period of ten to fifteen days. Close follow-up of the patient is necessary since erythromycin drugs have not had adequate evaluation in all stages of syphilis. Examinations of spinal fluid are recommended as part of the follow-up therapy.

For gonorrhea, 500 mg. four times a day for four days is recommended. In the treatment of gonorrhea, patients with suspected lesion of syphilis should have a dark-field examination before receiving antibiotics, and monthly serologic tests should be made for a period of three months.

**How Supplied:** Pulvules Ilosone, Capsules, N.F., 125 and 250 mg. (equivalent to base), in bottles of 24 and 100.

Tablets Ilosone Chewable, N.F., 125 mg. (equivalent to base), in bottles of 50.

Ilosone Drops, 5 mg. (equivalent to base) per drop, in 100 size packages, with dropper calibrated at 25 and 50 mg.

Ilosone, 125, for Oral Suspension, N.F., 125 mg. (equivalent to base) per 5-cc. teaspoonful, in 60 and 150-cc.-size packages.

**References:** 1. Griffith, R. S., and Black, H. R.: *Am. J. M. Sc.*, 247:69, 1968. 2. Griffith, R. S., and Black, H. R.: *Antibiotics & Chemotherapy*, 12:398, 1968. 3. Hirsch, H. A., Pyles, C. V., and Finland, M.: *Am. J. M. Sc.*, 239:198, 1965.

Additional information available to physicians upon request.  
Eli Lilly and Company, Indianapolis, Indiana 46206.

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TO:

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1. PATIENT'S NAME

2. ADDRESS

4. DIAGNOSIS (EXPLAIN COMPLICATIONS)

5. ADDITIONAL DIAGNOSES (CHRONIC DISEASE OF DEFECT FOUND DURING PRE)

6. DATE OF ONSET

7. DATE FIRST CONSULTED

8. DUE TO PREGNANCY

☐ YES ☐

11. SURGICAL OR OBSTETRICAL PROCEDURES (DESCRIBE)

12. IF HOSPITALIZED, NAME AND ADDRESS OF

15. NAME AND ADDRESS OF OTHER

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COMPLETE IF PATIENT

16. TOTAL DISAP

FROM

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PLEASE ATTACH TO COMPLETED INSURANCE CLAIM FORM

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APPROVED BY THE OKLAHOMA STATE MEDICAL ASSOCIATION

PHYSICIAN'S NAME

PATIENT'S NAME

ADDRESS

COMPLETE FOR MEDICAL CARE ONLY: AT HOSPITAL, HOME, OR OFFICE  
GIVE THE DATES OF TREATMENT BY INSERTING MONTH AND YEAR. INDICATE EACH  
H—HOSPITAL V—HOME O—OFFICE OR CLINIC

MONTH AND YEAR	1	2	3	4	5	6	7	8	9	10	11	12

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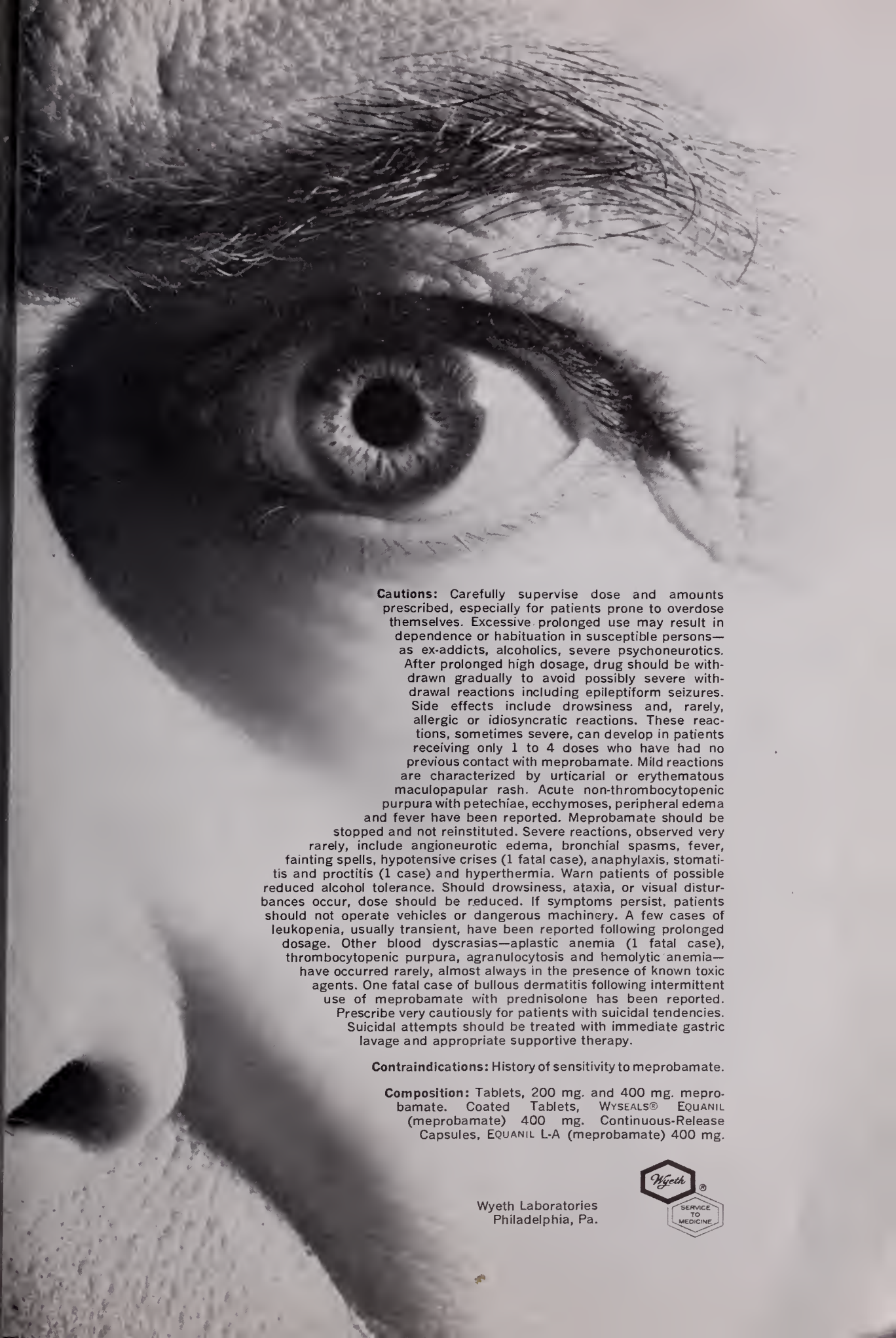




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**Cautions:** Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use may result in dependence or habituation in susceptible persons—as ex-addicts, alcoholics, severe psychoneurotics. After prolonged high dosage, drug should be withdrawn gradually to avoid possibly severe withdrawal reactions including epileptiform seizures. Side effects include drowsiness and, rarely, allergic or idiosyncratic reactions. These reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Mild reactions are characterized by urticarial or erythematous maculopapular rash. Acute non-thrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever have been reported. Meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioneurotic edema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. Warn patients of possible reduced alcohol tolerance. Should drowsiness, ataxia, or visual disturbances occur, dose should be reduced. If symptoms persist, patients should not operate vehicles or dangerous machinery. A few cases of leukopenia, usually transient, have been reported following prolonged dosage. Other blood dyscrasias—aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis and hemolytic anemia—have occurred rarely, almost always in the presence of known toxic agents. One fatal case of bullous dermatitis following intermittent use of meprobamate with prednisolone has been reported. Prescribe very cautiously for patients with suicidal tendencies. Suicidal attempts should be treated with immediate gastric lavage and appropriate supportive therapy.

**Contraindications:** History of sensitivity to meprobamate.

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## The JOURNAL

of the Oklahoma State Medical Association

### CONTRIBUTIONS

Articles accepted for publication, including manuscripts of annual meeting papers, are the sole property of the *Journal* and must not have been published elsewhere. Authority for approval of all contributions rests with the Editorial Board, and the Board reserves the right to edit any material submitted. Manuscripts should be typewritten, double-spaced and submitted in original and one copy. Receipt of manuscripts will be acknowledged and unused manuscripts returned. Used manuscripts will be returned on request. The *Journal of the Oklahoma State Medical Association* is not responsible for the statements or opinions of any contributor.

### STYLE

Footnotes, bibliographies, and legends for illustrations should be submitted on separate sheets, double-spaced. Bibliographies should follow in order of: name of author, title or article, name of periodical with volume number, page and date of publication. These references should be alphabetized and numbered in sequence.

### ILLUSTRATIONS

Illustrations, other than the author's, will not be accepted for publication unless accompanied by written permission to be reproduced. Illustrations should be identified by the author's name and the figure number of the illustrations. The illustrations should be numbered in the same order as referred to in the body of the article. Used photographs, and drawings will be returned after publication if requested. The *Journal* will pay for necessary black and white illustrations within reasonable limitations. The quality of drawings, sketches, etc., must be in keeping with the quality of the magazine.

### NEWS

Members of the Oklahoma State Medical Association, the constituent societies of the association, and all readers in general are invited to supply news items of general interest to the profession. Such copy should be received one month prior to the expected date of publication.

### ADVERTISING

All advertising copy must be approved by the Editorial Board before acceptance for publication. Copy and/or engravings must reach the *Journal* office by the first of the month preceding the month of publication. General and miscellaneous advertising rates will be sent on request.

### EDITING SERVICE

The Editorial Board reserves the prerogative to submit contributions to a Medical Editing Service when warranted. If such is felt necessary, the Editor will contact the author for approval, informing him that there will be a modest charge for this service.

### REPRINTS

Authors will receive reprint order forms from the Transcript Press, P.O. Drawer 1058, Norman, Oklahoma 73069, prior to final publication of their articles. Other requests for reprints must be made to the Transcript Press within 30 days after publication.



"HAPPY 1967"—to all auxiliary members in Oklahoma: Another Christmas has come and gone and we wonder what the new year will bring.

E. M. Gullatt, M.D., president of our Oklahoma State Medical Association reminds us that we must now begin to plan for 1968. "We can do a great deal to *help our cause* by joining OMPAC and encouraging our husbands to join. We must have members and money if we are to be ready for the campaign which will begin in February, 1968. The time is shorter than you realize. If you would like further information, write to Oklahoma Medical Political Action Committee, Box 75341, Oklahoma City 73107.

\* \* \*

Mrs. J. Hartwell Dunn, Oklahoma City and Mrs. Richard E. Witt, Muskogee, conducted a very interesting workshop on AMA-ERF for the McAlester auxiliary recently. Many members over the state may have wondered about our Oklahoma donations. In 1965-66 we gave a total of \$3,577.62—nearly a thousand dollars less than in 1964-65. The twelve southern regional states increased their donations in 1965-66 by over 12 per cent. Oklahoma is not pulling its weight by about 35 per cent. Let's get with it by contacting our members who have not contributed in the past—maybe they do not understand just what AMA-ERF is. Our job is to inform the members. Promotion is done by word of mouth, letters, posters and program. Projects—This is the only money making committee that the National Auxiliary sponsors. This does not mean that other committees which require funds are discouraged. It means that this is a *National Need*, whereas others are local.

Please do not misinterpret *NATIONAL NEED* as not being of concern to the local auxiliary. for this national need is the need of everyone connected with the medical pro-

fession. Every medical school shares in proportion to its needs and the money available—every medical student, intern or resident is eligible to borrow from the loan guarantee fund—this gets pretty local. Oklahoma is receiving assistance from AMA-ERF. We should inform our members of this and with this knowledge will come the wish to be a partner in helping to carry on this worthwhile project. We have 1,265 women who are members of the auxiliary. If each one gave \$5.00 (completely deductible) we would be the proud donors of \$6,375 from our state. There are many women who donate much more than this.

\* \* \*

The auxiliary members of the Atoka, Bryan and Coal county group are busy with various health projects within the county. Mrs. Charles Hodges, county health nurse was a recent speaker and advised the group about the progress being made in protecting the health of children and youth of today.

\* \* \*

Stephens county members had their first monthly husband-wife dinner recently. J. T. Herbelin, M.D., Oklahoma City was guest speaker. Doctor Herbelin spoke about "General Practice in Viet Nam." He spent two months in a hospital in Da Nang recently under a State Department Program helping care for the civilian population. The Stephens county members are making bandages for a leprosarium and collecting drugs for the "International Health Project."

\* \* \*

Important Notice: It isn't too early to start thinking about "Doctor's Day" . . . The date is March 30th.

\* \* \*

Don't forget about the Midwinter Board Meeting January 22nd, 1967—10 a.m., Oklahoma City, Oklahoma.

Ed Walker, Miami nursing home operator, has been elected President of the American Nursing Home Association. Walker, who drew Republican fire during the November election when he led a political action effort favoring gubernatorial candidate Preston Moore, has now called upon his national organization to "intensify POLITICAL ACTION—EDUCATION!" Further, he has said "the survival of free-standing, church-affiliated, non-profit and proprietary nursing homes depends upon a strong, militant American Nursing Home Association."

Canada will inaugurate a massive, all-inclusive "medicare" program in July, 1968. The central government will pay one-half the cost of medical care programs which are operated by the provincial governments according to prescribed standards, such standards to include all physicians' services, coverage of all residents, administration by a non-profit organization, and reciprocal arrangements between the provinces to care for transients. All ten provinces are expected to comply by 1968.

Twenty-five states have now been approved by the U.S. Department of Health, Education and Welfare for federal matching funds under Title XIX of the Medicare Act, the program to provide comprehensive tax-supported health care services for the needy and near-needy of all ages (commonly called Medicaid).

Former Governor Pat Brown of California will fare well in political defeat. He will receive a lifetime pension from the state in the amount of \$21,528 annually!

Oklahoma Blue Cross leads the nation in prompt payment of Medicare claims. Blue Cross, Medicare Part A intermediary for the state, has received a commendation from the Social Security Administration's Bureau of Health Insurance for leading all other Part

A intermediaries in making the highest percentage of estimated payments to hospitals during the first half of the fiscal year 1967.

Children's aspirin to be limited to thirty-six tablets per bottle after July, 1967, according to a joint agreement between the federal government and thirty-two pharmaceutical companies. The effort to reduce the risk of harmful accidental ingestion first took the form of proposed federal legislation, but the bill was sidetracked unanimously by Congressman John Jarman's Health Subcommittee of the U. S. House of Representatives. Another voluntary agreement will limit the potency of children's aspirin to 1¼ grains.

The Surgeon General of the U.S. Public Health Service says the nation's hospitals need twenty per cent more professional workers. His statement accompanied a joint report of the U.S.P.H.S. and the American Hospital Association which identified the following national shortages: 80,000 nurses, 40,000 L.P.N's, 50,000 general hospital aides, 30,000 psychiatric hospital aides, 9,000 medical technologists, 7,000 social workers, and 4,000 physical therapists, x-ray technologists and surgical technicians.

Personals. Kieffer D. Davis, M.D., Medical Director of the Phillips Petroleum Company, has been reappointed to the AMA's Council on Occupational Health; Richard F. Harper, M.D., Pawhuska, left for a 60-day stint in South Viet Nam in November.

## MEETINGS

February 6th-7th — Oklahoma Chapter, A.A.G.P., Skirvin Hotel

February 9th—Second Statewide Conference on Mental Health and Retardation—Skirvin Hotel, Oklahoma City

May 12th-14th—OSMA Annual Meeting, Tulsa Assembly Center, Tulsa

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I.M. administration; epinephrine effects may be reversed; dermatological reactions; parkinsonism-like symptoms on high dosage (in rare instances, may persist); weight gain; miosis; lactation and moderate breast engorgement (in females on high dosages); and less frequently cholestatic jaundice. Side effects occurring rarely include: mydriasis; agranulocytosis; skin pigmentation, lenticular and corneal deposits (after prolonged substantial dosages).

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**Precautions:** In elderly and debilitated and in children over five, limit dosage to smallest effective amount, increasing gradually as needed and tolerated. In general, concomitant use with other psychotropics is not recommended. Paradoxical reactions have been reported in psychiatric patients and hyperactive aggressive children. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically. Observe usual precautions in presence of impaired renal or hepatic function, impending depression and suicidal tendencies.

**Adverse reactions:** Drowsiness, ataxia and confusion may occur, especially in elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. Syncope occurs rarely. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis, jaundice and hepatic dysfunction) may develop occasionally, making periodic blood counts and liver-function tests advisable during protracted therapy. Individual maintenance dosages should be determined.

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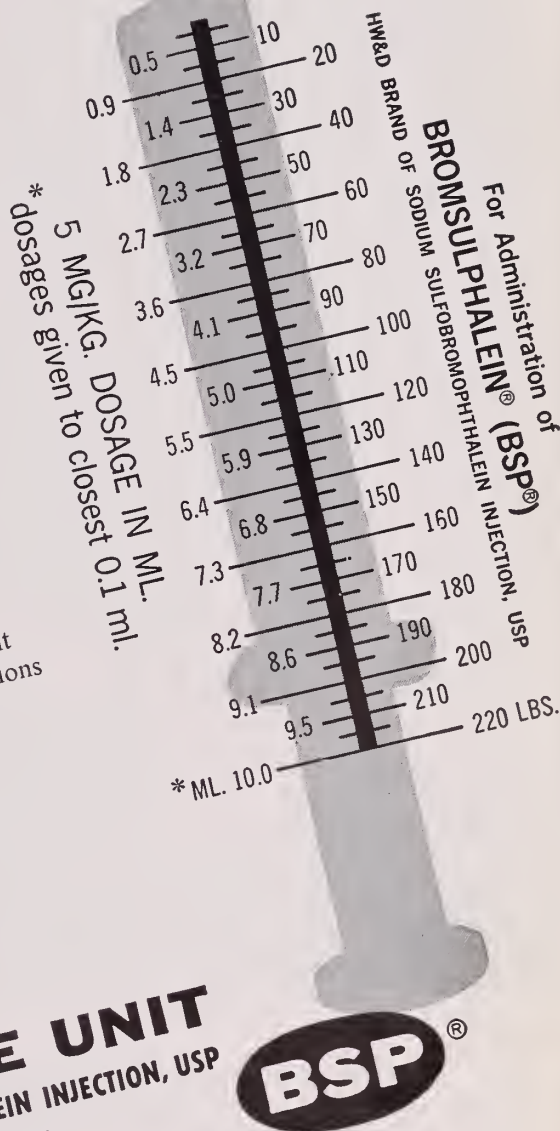
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FEBRUARY  
1967  
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## of the Oklahoma State Medical Association

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**Precautions and Adverse Reactions:** *Triactyloleandomycin*, administered to adults in daily oral doses of 1.0 gm. for 10 or more days, may produce hepatic dysfunction and jaundice. Adults requiring 3 gm. of *Signemycin* initially should have liver function followed carefully and the dosage should be reduced as promptly as possible to the usual recommended range of 1.0 to 2.0 gm. per day. Present clinical experience indicates that the observed changes in liver

*function are reversible after discontinuation of the drug.*

Use with caution in lower than usual doses in cases with renal impairment to avoid accumulation of tetracycline and possible liver toxicity. If therapy is prolonged under such circumstances, tetracycline serum levels may be advisable. In long term therapy or with intensive treatment or in known or suspected renal dysfunction, periodic laboratory evaluation of the hematopoietic, renal and hepatic systems should be done. Formation of an apparently harmless calcium complex with tetracycline in any bone forming tissue may occur. Use of tetracycline during tooth development (3rd trimester of pregnancy, infancy and early childhood) may cause discoloration of the teeth. Reversible increased intracranial pressure due to an unknown mechanism has been observed occasionally in infants receiving tetracycline. Glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis and definite allergic reactions occur rarely. Severe anaphylactoid reactions have been reported as due to triactyloleandomycin. Photosensitivity and photoallergic reactions (due to the tetracycline) occur rarely. Medication should be discontinued when evidence of significant adverse side effects or reaction is present. Patients should be carefully observed for evidence of overgrowth of nonsusceptible organisms including fungi, which occurs occasionally, and which indicates this drug should be discontinued and appropriate therapy instituted. Steps should be taken to avoid masking syphilis when treating gonorrhea.



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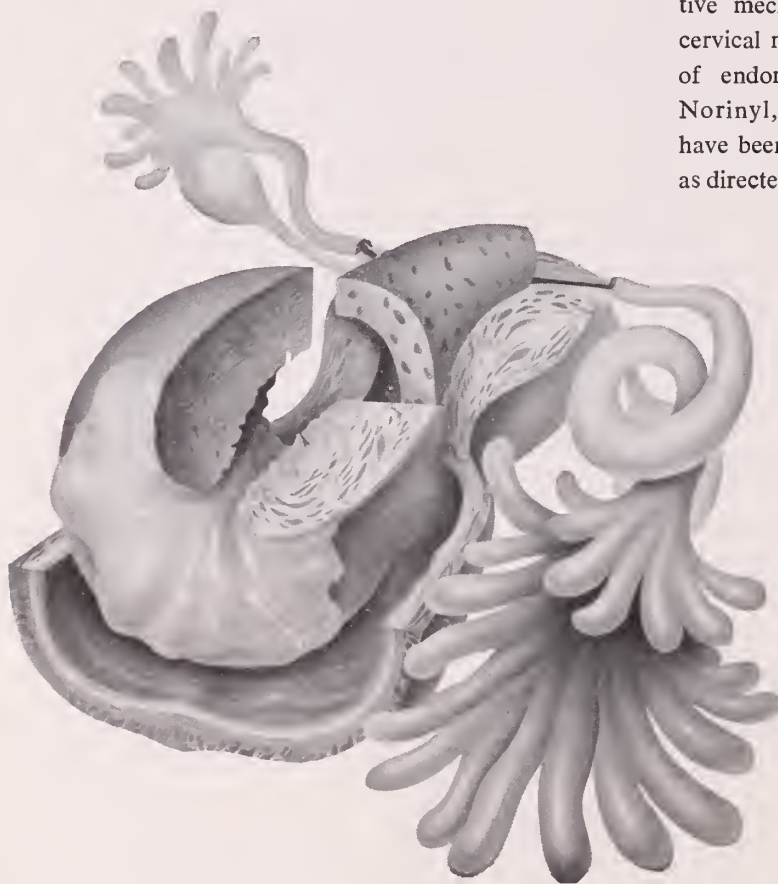
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firm the findings of the Ad Hoc Advisory Committee appointed by the Food and Drug Administration to review this possibility. Cardiac, renal or hepatic dysfunction. Carcinoma of the breast or genital tract. Patients with a history of psychic depression should be carefully studied and the drug discontinued if depression recurs to marked degree. Patients with a history of cerebral vascular accident.

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ketosteroids and decrease in 17-hydroxycorticoid levels. Thus, Norinyl should be discontinued prior to and during thyroid, liver or adrenal function tests. Because progestational agents may cause fluid retention, conditions such as epilepsy, migraine and asthma require careful observation. Thus far no deleterious effect on pituitary, ovarian or adrenal function has been noted; however, long-range possible effect on these and other organs must await more prolonged observation. Norinyl should be used with caution in patients with bone, renal or any disease involving calcium or phosphorus metabolism. **Side Effects:** Intermenstrual bleeding; amenorrhea; symptoms resembling early pregnancy, such as nausea, breast engorgement or enlargement, chloasma and minor degree of fluid retention (if these should occur and patient has not strictly adhered to medication plan, she should be tested for pregnancy); weight gain; subjective complaints such as headache, dizziness, nervousness, irritability; in a few patients libido was increased. In a total of 3,090 patients, 2.2% discontinued medication because of nausea.

**NOTE:** See sections on contraindications and precautions for possible side effects on other organ systems.

**Dosage and Administration:** One Norinyl tablet orally for 20 days, commencing on day 5 through and including day 24 of the menstrual cycle. (Day 1 is the first day of menstrual bleeding.)

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**References:** 1. Council on Drugs. JAMA 187:664 (Feb. 29) 1964. 2. Brvans, F. E.: Canad Med Ass J 92:287 (Feb. 6) 1965. 3. Goldzieher, J. W.: Med Clin N Amer 48:529 (Mar.) 1964. 4. Cohen, M. R.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965. 5. Hammond, D. O.: Ibid. 6. Rice-Wray, E., Goldzieher, J. W., and Aranda-Rosell, A.: Fertil Steril 14:402 (Jul.-Aug.) 1963. 7. Goldzieher, J. W., Moses, L. E., and Ellis, L. T.: JAMA 180:359 (May 5) 1962. 8. Kempers, R. D.: GP 29:88 (Jan.) 1964. 9. Tyler, E. T.: JAMA 187:562 (Feb. 22) 1964. 10. Rudel, H. W., Martinez-Manautou, J., and Maqueo-Topete, M.: Fertil Steril 16:158 (Mar.-Apr.) 1965. 11. Flowers, C. E., Jr.: N Carolina Med J 25:139 (Apr.) 1964. 12. Goldzieher, J. W.: Appl Ther 6:503 (June) 1964. 13. The Control of Fertility. Report adopted by the Committee on Human Reproduction of the American Medical Association. JAMA 194:462 (Oct. 25) 1965. 14. Flowers, C. E., Jr.: JAMA 188:1115 (June 29) 1964. 15. Merritt, R. I.: Appl Ther 6:427 (May) 1964. 16. Newland, D. O.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965.

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**Dosages:** Usual dose is 1 tablet twice daily, at morning and evening meals. However, adjustment of dosage to suit individual circumstances may be required. Please refer to package insert for full particulars.

**Side effects and precautions:** The side effects observed with patients on DIUTENSEN-R have been of a mild and nonlimiting nature. These include occasional urinary frequency, nocturia, nasal congestion, muscle cramps, skin rash, joint pains due to gout and nausea and dizziness which have been reported for the individual components. Most of these symptoms disappear while the drug is continued at the same or lower dosage level. The concomitant use of digitalis and DIUTENSEN-R may increase the possibility of digitalis-like intoxication. If there is evidence of myocardial irritability (extrasystoles, bigeminy or AV block), dosage of DIUTENSEN-R should be reduced or discontinued. Nocturia in patients with marginal cardiac status and salt and fluid retention can be effectively controlled by limiting the time of administration to early afternoon. DIUTENSEN-R should not be used in patients with a known intolerance to reserpine. Package inserts furnish a complete summary of recommended cautions related to each of the ingredients of DIUTENSEN-R.

\*As tannate salts equivalent to 130 Carotid Sinus Reflex Units.

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Cryptenamine 1.0 mg • Methyclothiazide 2.5 mg Reserpine 0.1 mg



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# Obesity Oddities

FACT & LEGEND



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LOST THE BATTLE OF WATERLOO  
BECAUSE HE WAS TOO FAT!

ACCORDING TO THE NEW YORK TIMES OF APRIL 13, 1890, THE DEFEAT OCCURRED BECAUSE HE FAILED TO CHECK HIS INTELLIGENCE INFORMATION. "IT WAS A MATTER OF MERE INDOLENCE AND THIS INDOLENCE WAS CAUSED BY FAT."

SOURCE: JAMA 186:65 (OCT. 5) 1963.



THE BOOK "PRAY YOUR WEIGHT AWAY" URGES READERS TO "ASK GOD TO HELP YOU LIKE EXERCISE" FOR 15 MINUTES A DAY.

SOURCE: REV. C.W. SHEDD: NEW YORK: LIPPINCOTT, 1958.

**GALLSTONES** HAVE BEEN FOUND IN 60% OF PATIENTS WHO WEIGH MORE THAN 300 POUNDS, 45% HAVE DIABETES, AND 15-TO-20% HAVE HIGH BLOOD PRESSURE.

SOURCE: DUNCAN, G.G.; SCIENCE NEWS LETTER, 83:403 (JUNE 29) 1963.



**DIET  
DROPOUTS**

ACCORDING TO DRs. SHIPMAN AND PLESSET "APPARENTLY NO DIETER SUCCEEDS WHO IS VERY ANXIOUS OR DEPRESSED."\*

THE AMBAR FORMULA PROVIDES METHAMPHETAMINE TO HELP ELEVATE THE MOOD AND PHENOBARBITAL TO HELP REDUCE ANXIETY.

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methamphetamine HCl 15 mg.,  
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(Warning: may be habit forming)

chloride 10 mg., phenobarbital 64.8 mg. (1 gr.)  
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**BRIEF SUMMARY—Indications:** Ambar suppresses appetite and helps offset emotional reactions to dieting. **Side Effects:** Nervousness or excitement occasionally noted, but usually infrequent at recommended dosages. Slight drowsiness has been reported rarely. **Precautions:** Administer with caution in the presence of cardiovascular disease or hypertension.

**Contraindications:** Hypersensitivity to barbiturates or sympathomimetics; patients with advanced renal or hepatic disease. See package insert for further details.

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 breathing on one tablet

It's clear—Dimetapp lets your "stuffed-up" patients breathe easy again. Each hard-working Extentab brings welcome relief from the stuffiness, drip and congestion of upper respiratory conditions for up to 10-12 hours. Yet, patients seldom experience drowsiness or overstimulation. The key to success is the Dimetapp formula: Dimetane (brompheniramine maleate)—along with phenylephrine and phenylpropanolamine, two time-tested decongestants. They get the job done...in a hurry.

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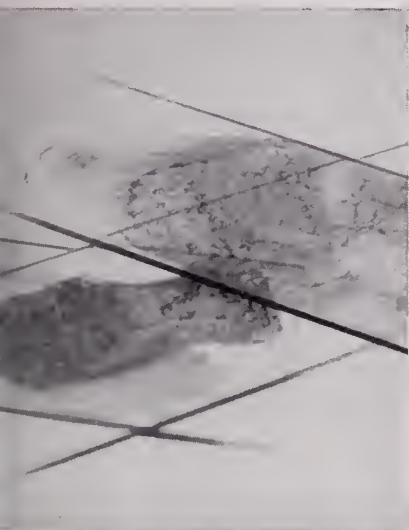
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or recurrent monilial vaginitis



3. elderly or debilitated patients



4. patients with a past history of moniliasis



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**BRISTOL THERAPEUTIC SUMMARY:** For complete information consult Official Package Circular. **Indications:** Infections of respiratory, gastrointestinal and genitourinary tracts and skin and soft tissues due to tetracycline-sensitive organisms, in patients with increased susceptibility to monilial infections. **Contraindications:** The drug is contraindicated in patients hypersensitive to its components. **Warnings:** Photodynamic reactions have been produced by tetracyclines. Natural and artificial sunlight should be avoided during therapy. Stop treatment if skin discomfort occurs. With renal impairment, systemic accumulation and hepatotoxicity may occur. In this situation, lower doses should be used. Tooth staining and enamel hypoplasia may be induced during tooth development (last trimester of pregnancy, neonatal period and childhood). **Precautions:** Bacterial superinfection may occur. Infants may develop increased intracranial pressure with bulging fontanels. In gonorrheal therapy, serologic tests for syphilis should be conducted initially and monthly for 3 months. **Adverse Reactions:** Glossitis, stomatitis, nausea, diarrhea, flatulence, proctitis, vaginitis, dermatitis, and allergic reactions may occur. **Usual Adult Dosage:** 1 capsule *q.i.d.* Continue therapy for 10 days in beta-hemolytic streptococcal infections. Administer one hour before or 2 hours after meals. **Supply:** Capsules, bottles of 16. Each capsule contains tetracycline phosphate complex equivalent to 250 mg. tetracycline HCl activity and 250,000 units of nystatin.

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She's anxious, tense, irritable. She's felt this way for months.

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May be used in a broad range of patients, generally with considerable dosage flexibility.

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Not indicated in children under 6 years; absolute dosage for 6 to 12 year-olds not established.

**Side Effects:** Therapy-interrupting side effects are rare. Transient mild drowsiness is common initially; if persistent, reduce dosage. Dizziness, vertigo and headache have also occurred infrequently; syncope, rarely. Mild paradoxical reactions (excitement, stimulation of affect) are reported in psychiatric patients. Minor diffuse rashes (morbilliform, urticarial and maculopapular) are rare. Nausea, lethargy, edema, slurred speech, tremor and altered libido are rare and generally controllable by dosage reduction. Although rare, leukopenia and hepatic dysfunction including jaundice have been reported during therapy. Periodic blood counts and liver function tests are advised. Ataxia, reported rarely, does not appear related to dose or age.

These side reactions, noted with related compounds, are not yet reported: paradoxical excitation with severe rage reactions, hallucinations, menstrual irregularities, change in EEG pattern, blood dyscrasias (including agranulocytosis), blurred vision, diplopia, incontinence, stupor, disorientation, fever, euphoria and dysmetria.

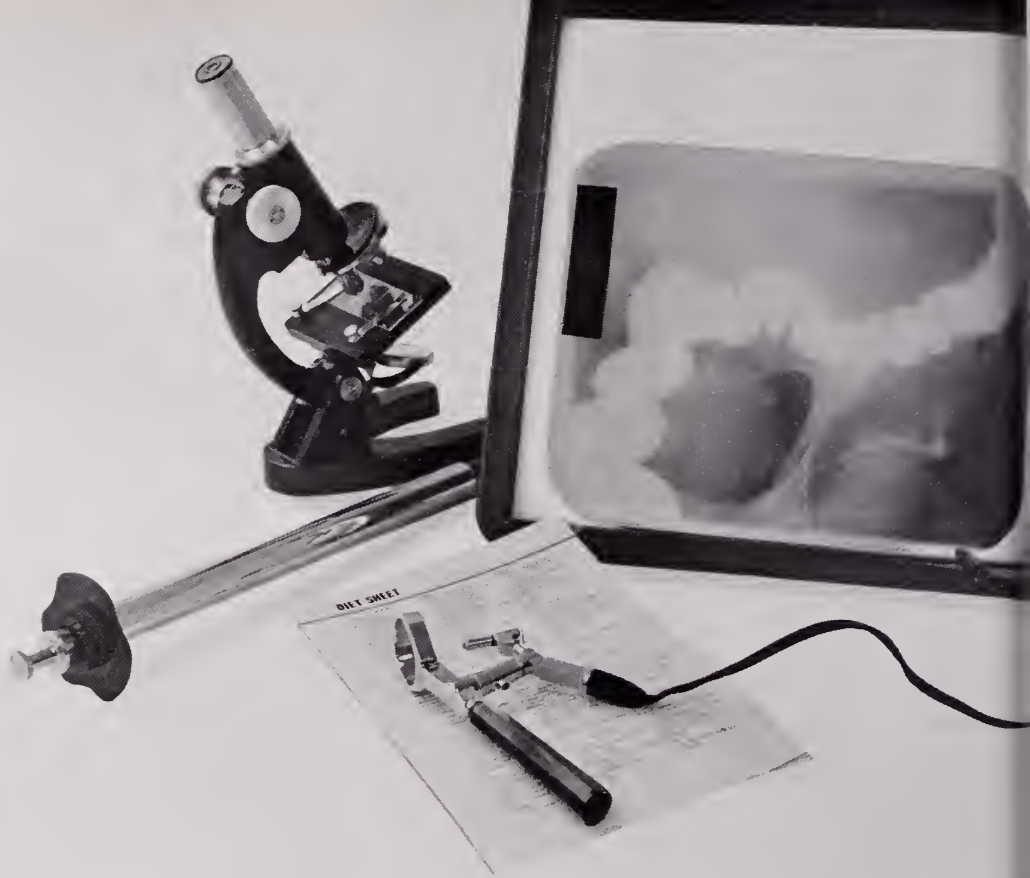
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this issue: the nose as a shock organ



# the nose as a shock organ

by Charles J. Shagoury, M.D., Chelmsford, Massachusetts

"Is it a cold, hay fever, or has he been reprimanded by his boss?" Occasionally, you will ask yourself this question when confronted by a patient with abrupt onset of rhinorrhea, nasal obstruction, and sneezing. Usually the history will elucidate the problem, but examination of the nose will often provide valuable clues to the correct diagnosis.

The nose is a shock organ in a double sense. First, it is in the nose that the confrontation takes place with the surrounding atmosphere. For twenty-four hours a day, the nose must meet the varying challenges of the inspired air, containing perhaps noxious chemicals, dust, dirt, bacteria, viruses, fungi, and industrial pollutants of all kinds, and render it clean, virtually sterile, and fit for the sensitive alveoli of the lungs. Whatever the temperature or humidity of the atmosphere, the nose must transmit it to the lungs at approximately 98°F, and with a humidity of approximately 40%.<sup>1</sup>

Second, in particularly susceptible patients, the nose acts as a shock organ in a manner totally unrelated to its normal function. Persons with hay fever respond to ordinarily harmless materials by extreme nasal congestion, with marked rhinorrhea and violent spasms of sneezing. In some patients, exposure to threatening or disagreeable agents, or situations involving mental conflict may result in a reaction which is exclusively nasal, with swelling of the turbinates, and marked hypersecretion.<sup>2</sup>

Nasal symptoms usually result when the nose seeks to perform its function of getting rid of noxious and dangerous elements in the atmosphere, and prevent their admission to the trachea and lungs. Small particles are removed by the mucous coating which blankets the nasal passages. This mucous blanket contains a bacteriostatic agent, lysozyme, which destroys most air-borne bacteria.<sup>3</sup> The mucinous content renders the surface sticky, causing dusts and small particles to adhere. It has been postulated that this process is rendered more effective through adsorption because of a surface electrical charge on the nasal mucosa.<sup>4</sup> The cilia then sweep the particu-



late matter to the pharynx. The nose can prevent entrance into the lungs of particles as small as three microns in diameter, but smaller particles elude the nasal barrier. Most bacteria causing respiratory infections are one to three microns in diameter, but since they usually are inhaled in clumps, they are efficiently removed as a rule. Viruses, which are of the order of 1/1000 of this size, are less efficiently dealt with, unless they occur in very large aggregates.<sup>5</sup>

The nose will react in a more or less similar manner, whatever the nature of the offending agent, whether it be an irritant chemical, virus, pollen, or distasteful emotional situation. In acute coryza, the most characteristic sign is a profuse watery discharge. The volume of secretion may rise from practically nothing to nearly 60cc in twenty-four hours.<sup>6</sup> The mucous membrane is reddened and engorged, while the turbinates are markedly swollen. After the first day or two, the secretion becomes thicker, yellowish, and more difficult to expel. The surface cells are largely destroyed, contributing to the copious discharge, which now also contains numerous inflammatory cells which have migrated to the area. Gradually, over a period of a few days, or a week, the flood abates, the swelling and redness subside, and the nasal epithelium resumes a healthy appearance.

Repeated attacks of rhinitis, particularly if there is an underlying element of obstruction, may result in chronic rhinitis. The mucous membrane is constantly swollen and reddened. Sticky, mucopurulent secretions are a continuous feature, and the glandular elements are hypertrophied. Commonly, the mucosal surface takes on an irregular, rounded "mulberry" appearance, and nasal passages are occluded by the swollen turbinates and redundant mucosa.

While all of us are susceptible to colds, the victim of hay fever, or allergic rhinitis, displays a marked nasal reaction to materials in the air which leave his associates unaffected. In such a patient, the nasal mucosa has become an allergic "shock" organ. Contact with the nasal allergen causes local release of histamine, with vasodilatation, increased vascular permeability, and severe nasal congestion, similar to the "wheal" and "flare" reactions in the skin, when the epidermis is the allergic shock organ. While we eagerly await the coming of spring, the hay fever sufferer dreads the blooming season, whose invisible pollens are poisons to his sensitive nose. His neighbor's cat or dog may provoke paroxysms of uncontrollable sneezing. In some cases a specific allergen is not identified, but the triad of rhinorrhea, nasal obstruction, and sneezing is present.<sup>7</sup> The nose in these cases shows a pale, boggy, edematous mucosa, with a thin mucoid secretion. The mucous membrane shows extreme retractility to 1% cocaine or ephedrine. If the patient has medicated himself prior to examination, the nasal passages may appear abnormally patent, or show exaggerated congestion due to rebound reaction. The secretion may show a large number of eosinophils particularly after an attack of sneezing or rhinorrhea. Touching the mucosal surface, especially of the inferior turbinate, leaves an indentation, showing that the swelling is due to stasis and edema, rather than actual hyperplasia of the mucous membrane as in chronic hypertrophic rhinitis. Though the pale swollen mucosa is the hallmark of allergic rhinitis, as usually seen by the physician, exposure of allergic subjects to their known allergens results in a brief hyperemic phase, followed by pallor and edema.<sup>8</sup>

In the later stages of allergic rhinitis, the chronic edema of the mucous membrane results in the formation of polyps, clusters of grape-like masses hanging from the roof of the nose, with a pale glistening surface, contributing significantly to the sense of nasal obstruction and oppression.

A large group of patients show symptoms of nasal congestion when confronted by adverse life situations.<sup>9</sup> In these unfortunate persons, anxiety, frustration, and resentment are often accompanied by a runny nose and nasal obstruction. Lacrimation adds to the nasal stuffiness. This autonomic response, mediated by the parasympathetic nervous system, may be part of a general parasympathetic reaction, or may possibly represent in part, a symbolic effort to wash out and crowd out the offending situation.

Nasal congestion may also occur in some patients at times of sexual stimulation, and in women during menstruation and pregnancy, even to the point of epistaxis.<sup>10</sup> The relationship is obscure; castration results in atrophy of the nasal glands, and their action is inhibited by the hormones of the hypophysis and the thyroid.<sup>11</sup> The nose may be the shock organ in drug therapy. The nose may also bear the brunt of industrial stress, in those who work in a hot dry atmosphere, or those exposed to acid fumes, or irritating dusts. As the air in our cities is increasingly polluted by exhaust fumes, and industrial irritants, whole urban populations may suffer from chronic nasal and respiratory symptoms.

Of course, nasal reactions are not just infectious, or allergic, or emotional. Particularly in the chronic sufferers, there is an interdependence of all three. Death of a relative, or other psychic shock can pre-

*(concluded on following page)*

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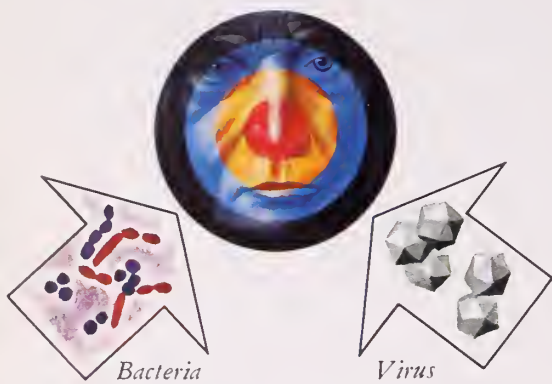
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precipitate an attack of rhinorrhea in hay fever sufferers.<sup>12</sup> Others develop attacks of vasomotor rhinitis following change in temperature, chilling, or exposure to the sun, or simply warm bedclothes.



The complex interplay of allergy and infection is largely unclear. Allergy to the viruses and bacteria which cause infection has been postulated, but is difficult to demonstrate. The swollen obstructed allergic nose is more susceptible to infection. At the same time, infection often precedes or precipitates an allergic attack. Exposure of a susceptible patient to an allergen can activate latent virus organisms leading to infection.<sup>13</sup> This "jolt" reaction represents a summation of an allergen and a virus leading to symptoms in the nose as a shock organ, which neither could have produced alone. In childhood, repeated attacks of bronchitis and colds may be inflammatory reactions to an allergen, or precipitated by exposure to an allergen. These children may later develop typical allergic rhinitis. On the other hand, children with typical allergic histories, eczema, asthma, and allergic familial backgrounds, may later develop typical infectious rhinopathies. Skin tests in such patients are usually positive.

Nasal reactions are part of the systemic response of the patient to an unwelcome stimulus. In cases of respiratory infection and exposure to atmospheric irritants, the reactions are useful, and to some extent desirable. They are usually self-limited, disappearing within a few days, or upon removal of the provoking agent. Here the distressing symptoms can be ameliorated with appropriate decongestant agents, or, in the case of severe or complicated respiratory infections, antibiotics may be given, with reasonable confidence of a cure. On the other hand, when nasal reactions are the peculiar response of an individual to an allergen, or to an undesirable situation, they serve no useful purpose. The nose here is a shock organ in a stressful situation, but can furnish no response of value. It merely causes the patient symptoms which add to his problems. In these cases,

symptomatic treatment is of great benefit, but often the underlying faulty pattern of response cannot be altered. Such a patient may literally be considered to be paying his way in life "through the nose."

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INSURANCE COMPANY ADDRESS

## ATTENDING PHYSICIAN'S REPORT

1. PATIENT'S NAME

2. ADDRESS

4. DIAGNOSIS (EXPLAIN COMPLICATIONS)

5. ADDITIONAL DIAGNOSES (CHRONIC DISEASE OF DEFECT FOUND DURING PRF)

6. DATE OF ONSET

7. DATE FIRST CONSULTED

8. DUE TO PREGNANCY

☐ YES

☐

11. SURGICAL OR OBSTETRICAL PROCEDURES (DESCRIBE)

12. IF HOSPITALIZED, NAME AND ADDRESS OF

15. NAME AND ADDRESS OF OTHER

COMPLETE IF PATIENT

16. TOTAL DISAP

FROM

17. P

PLEASE ATTACH TO COMPLETED INSURANCE CLAIM FORM

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APPROVED BY THE OKLAHOMA STATE MEDICAL ASSOCIATION

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PATIENT'S NAME

ADDRESS

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GIVE THE DATES OF TREATMENT BY INSERTING MONTH AND YEAR. INDICATE EACH  
H—HOSPITAL V—HOME O—OFFICE OR CLINIC

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THE CONTRIBUTORS whose papers follow are members of a collaborative group of investigators working on what is called the Neurocardiology Research Project. Neurocardiology is concerned with the central nervous mechanisms that govern the behavior of the heart and blood vessels. It has been demonstrated that such mechanisms can be set in motion in response to emotionally significant life experiences. The evidence indicates that changes induced by neural impulses may, if of sufficient intensity and duration, give rise to significant symptoms, tissue damage and even death.

The work of the Neurocardiology Research Center at the University of Oklahoma Medical Center has focused on the important subject of myocardial infarction and sudden death. The program is organized around a careful study of 50 patients who have had well-documented myocardial infarctions in the past, and 50 apparently healthy control subjects matched individually with the patients for age, sex, race, height, weight, educational background and type of job. These subjects are studied carefully from week to week with measurements and observations on a variety of physiological variables and psychosocial factors.

The objective is to identify those indicators that may be pertinent to recurrent myocardial infarction or sudden death. Heart rate, blood pressure and respiratory responses are tested under standardized conditions every few weeks. At the same time, blood is drawn for measurement of various clotting factors and serum lipids. Ballistocardiogram and electrocardiogram are recorded. In addition, at certain intervals, an estimate of coronary blood flow is made by an external radioisotope counting method. Changes in life situation and emotional state are recorded at regular visits and correlated with the measurements obtained. While the work provides a new perspective on arteriosclerotic heart disease, it is hoped not only to learn the relation of psychosocial forces to coronary disease but also to learn ways of anticipating and avoiding recurrent infarction and sudden death.

The relevance of psychosocial forces to coronary artery disease cannot be ascer-

tained simply by the process of correlation without identifying something about the intervening mechanisms. The problem was to decide what mechanisms to study. The term "coronary artery disease" is loosely used to identify coronary atherosclerosis, or to characterize someone who has had a myocardial infarction at some time in the past. Ischemic heart disease is a more modern, synonymous term. In our society, when sudden, unexpected death occurs in an adult, it is, by convention, attributed to myocardial infarction and hence, ischemic heart disease. Actually, the implication of close identity among coronary atherosclerosis, myocardial infarction and sudden death is not justified. In fact, it is well known that an individual may have extensive coronary atherosclerosis without ever suffering a myocardial infarction, or indeed, sudden death. Similarly, myocardial infarctions may occur without very marked coronary atherosclerosis, and sudden death has been observed in the absence of either coronary atheroma or evidence of myocardial infarction.

With respect to the mechanisms involved in these three separable phenomena, it can be said that the mechanism of atherosclerosis is not known, neither is the sequence of events leading to myocardial infarction understood, and although imperfectly understood, there is more evidence concerning the mechanisms involved in sudden cardiac death. Indeed, as early as 1889 when McWilliam first described ventricular fibrillation, he suggested that the phenomenon and the resulting sudden death might be brought about by impulses in the vagus nerves set up by a reflex mechanism. Despite this early hypothesis and a host of confirmatory data since that time, cardiologists have accorded little attention to neural mechanisms, and virtually none to the possibility that the neural mechanisms might be set in motion by symbolic stimuli growing out of attempts to adapt to the problems of daily life.



There is considerable anecdotal evidence that sudden death may occur under circumstances of extreme emotional stress. Most of the accounts stress extreme disappointment or repudiation as an antecedent. Among the subjects of our own study who have died, most could be considered to have been under severe emotional pressure and some figuratively at the end of their ropes.

In an effort to provide further and more solid links in the chain of evidence, a study of the neural mechanisms in sudden death was undertaken. As described in Doctor Houk's paper, it was shown that the sequence of bradycardia, ventricular extrasystoles, heart block, atrioventricular dissociation, auricular flutter and fibrillation, electrocardiographic evidence of myocardial injury as reflected in the S-T segment, ventricular tachycardia, ventricular fibrillation and cardiac arrest all could be produced by neural mechanisms that can be blocked by deep anesthesia, or atropinization. The initial manifestations that preceded this sequence of cardiac changes included bradycardia, increase in diastolic pressure and the metabolic changes of anerobic metabolism, namely an increase in serum potassium and lactic acid, and lowering of arterial pH, changes identical to those described as characterizing the oxygen-conserving, or diving, reflex. These findings strengthened the hypothesis already suggested, that an over-exuberant oxygen-conserving reflex, although fundamentally protective, might result in sudden death.

It was then reasoned that if such a sequence of events were pertinent to the occurrence of sudden death in humans, with or without coronary artery disease, it might be possible to detect in them habitual use of the reflex mechanism as a mark of their style of adaptation, but short of death. It was further reasoned that those in whom evidence of ischemic heart disease existed, by virtue of their having had a myocardial infarction at some time in the past, would be more likely than control subjects to display this particular adaptive pattern marked by bradycardia. It was possible to test this hypothesis, in part, with reference to data collected by Doctor Robert A. Schneider. He

found further evidence of more or less persistent vagal tone in the patient, as opposed to the control group, as reflected by much less sinus arrhythmia. Indeed, with respect to sinus arrhythmia, the patients in each decade behaved like the controls a decade older. It has been mainly those patients with the most pronounced bradycardia and the least amount of sinus arrhythmia who have died subsequently of recurrent myocardial infarction.

In instances where patients have been monitored before death, bouts of bradycardia and showers of premature ventricular contractions were usually observed prior to the other abnormalities reflected in the electrocardiogram. In a few instances when arterial blood was sampled the same biochemical changes were found that characterize the oxygen-conserving reflex. Finally, the manifestations of the oxygen-conserving reflex have been induced in healthy young men under the stress of prolonged attempts at arterial puncture. Thus, the chain of evidence, though still somewhat tenuous, has come full circle, with a demonstration that the oxygen-conserving reflex may occur under circumstances of emotional stress, that the reflex can be exaggerated to the point of producing death, and finally that a variety of sudden cardiac death is achieved by virtue of the activation of a neural mechanism that literally turns off the heart.—*Stewart Wolf, M.D.* □

## *Of Roosters and Doctors and Nursing Homes in Oklahoma*

**A**LL KINDS of things happen in medicine today as the government comes along to alter and to change our social structure; to be sure this sort of thing creates some chaos in regard to our medical practice. It is hoped that no one in the medical profession will lose his perspective and that no one progresses to the point like the nearsighted poultry scientist who is said to have attempted to cross a rooster with a rooster. All he got out of his efforts were two cross roosters.

Recently I have looked over our profession rather meticulously from top to bottom; I regret to inform you that I was most im-

pressed with the nervousness of the group as a whole. The members of the medical profession in Oklahoma are not reaching out as creatively and as provocatively as they have in the past. It appears that there is developing a *folie á neuf* where healthy skepticism is only for the "squares."

And from this dreary beginning I want to tell you about the nursing home industry. This is a relatively new industry in our state. It is an extremely healthy and progressive industry engaged in rendering a useful service. There is a burst of imagination and a forward look coupled with a democratic orientation associated with the nursing home operation. Organized medicine must become more knowledgeable and interested in the operation if we are to endure and survive the Great Society thrust.

Ed Walker, a pharmacist and a nursing home owner from Miami, is the newly elected president of the American Nursing Home Association. Prior to becoming president of the national association he was president of the state association. Mr. Walker is a friend of organized medicine; moreover, there exists an effective liaison from organized medicine to the nursing home association.

Oklahoma has 460 nursing homes with 18,734 beds. The industry supports 10,000 employees and collects four and one-half million dollars for services rendered. The Department of Public Welfare picks up the tab for 80 per cent of the Oklahoma Nursing Home resident population. The average age of the nursing home resident in our state is 81.6 years.

In the last five years 12,000 new beds—66⅔ per cent of all existing beds in Oklahoma—have been built at a cost exceeding \$75 million dollars. This has been done largely through the financing efforts of private enterprise. There is a 12 per cent growth and replacement rate each year in the state. Our state program compares most favorably with the national figures which show that 300,000 new beds have been built during the last five years at a cost of \$1.5 billion dollars. This represents more than one-half of the 550,000 existing beds in the nation.

One can only conjecture regarding the true feeling of the members of organized medicine concerning its relationship to the nursing home industry and its efforts.

Nevertheless, organized medicine is in a partnership with the nursing home operators—a partnership that also includes the Department of Public Welfare and the State Health Department—in adequately caring for the elderly in our state. It behooves us to strengthen our liaison and to broaden our knowledge in regard to this paramedical operation.—Edward K. Norfleet, M.D. □

## *Health Economic Gapis*

A REVIEW of the Oklahoma Health Economic Task Force Survey is reported elsewhere in this Journal (page 101).

The project to take a hard look at the quantity and quality of prepayment protection afforded to Oklahomans was initiated by the OSMA's House of Delegates in May of 1965. It was supported with both money and effort by the Oklahoma Hospital Association, the AMA, and by the Oklahoma Blue Cross and Blue Shield Plans (that now-grown child of the OSMA who still respects its elders despite alternate episodes of spanking and coddling).

Although medicine and its supporting industries need not apologize for the progress already made in helping people prepare in advance for the costs of inevitable illness, the problem has reached contemporary proportions: Health care costs are rising so rapidly that many persons either can't or won't purchase adequate prepayment protection; there are definite gaps in the number of Oklahomans insured and in the quality of health insurance benefits available; and where vacuums occur the citizenry becomes unhappy and government invades the private sector of health economies.

The findings of the survey are not surprising; rather, they merely confirm a situation which the astute observer has known for sometime.

But is the *status quo* good enough when only slightly more than one-half of Oklahoma's population is covered against the costs of serious illness, and when the quality of their coverage needs an overhaul?

Something needs to be done. Hopefully, the Task Force recommendations will provide an opportunity for the OSMA to preserve what is left of self-reliance in the health field. □





The OSMA's selection of a new professional liability insurance company has created a great deal of reaction in various parts of the state, and a few words of clarification are in order:

It has been said by some who oppose this change that the Insurance Company of North America's policy form is inferior. This is not so; *the INA form compares very favorably to the best on the market*, as determined by OSMA legal counsel. Most importantly, we have assurance of a *liberal interpretation of policy conditions*, an important consideration regardless of which insurance carrier is selected.

Allegations have been made that INA will pull out of the market in the face of adversity. This amounts to unfounded speculation, and the same could be said of any carrier chosen. The facts are that *INA wants the OSMA account; the company is in the business of writing insurance, not cancelling it; and, the company has already taken steps to launch a claims prevention program for the purpose of curbing unmeritorious or needless claims, a positive act to preserve the stability of the insurance plan!*

Seasoned defense counsel have been selected by the company, and its claims ad-

justment force is among the largest and best-qualified in the state.

The OSMA action to change its endorsement was not taken without cause, nor was it taken precipitously—more than a year of considered study was invested by the Council on Insurance in formulating the best possible program to improve the malpractice picture in Oklahoma. *The Council was supported unanimously by the Board of Trustees and House of Delegates.*

Professional liability insurance is a volatile business, and no one can predict with certainty what the future holds. Let it be said, however, that *a change was in order . . . that a careful decision was made in the best interests of OSMA members . . . and that an opportunity exists for every member of OSMA to become better informed regarding the cause and prevention of malpractice claims.*

Through collective action the loss experience and the premium costs can be improved. *A mass enrollment of physicians in the INA program will enhance our chances of success, for with this company we have achieved a spirit of cooperation that does not exist elsewhere.*

Look up your professional liability insurance renewal date today, and *make plans to convert your coverage to the OSMA-endorsed program.*

*Ernie M. Gullatt M.D.*



## Social Factors and Coronary Heart Disease

JOHN G. BRUHN, Ph.D.

*The implications of social and cultural factors in the pathogenesis of coronary heart disease.*

IT IS ACCEPTED by some that dietary cholesterol is the factor of major importance in producing atherosclerosis.<sup>1</sup> This is a reasonable theory, providing one takes the view that human organisms are universally the same with respect to their environments, social relationships and emotions, and that they differ only by the amount of fat ingested in the diet. However, even cursory observations reveal that one of the predictable elements of human behavior is change. Change is a natural quality of the human organism and is necessary in order for it to keep "in tune" with its external environment which is in a state of constant flux. By the way man perceives these changes he, in turn, produces changes in his own internal environment. This process, called adapta-

tion, is essential to man's survival. The process of adaptation begins with the reception and interpretation of stimuli in the neural centers of the body.<sup>2</sup> The process by which this occurs is not yet completely understood. Since adaptation must occur both "within" and "without" the organism, it follows that the physical, social and cultural environments are all potential sources of stimuli. It is in this light that social and psychological factors must be considered in the etiology and pathogenesis of coronary heart disease.

### ENVIRONMENTAL STABILITY

If dietary fat is directly related to serum cholesterol, ideally one would expect to find a greater amount of coronary heart disease among groups which have high fat intakes and, in turn, high serum cholesterol levels. However, cultural groups in various parts of the world who subsist on diets high in fat content, have been found to have low serum cholesterol levels and a paucity of coronary heart disease.<sup>3-13</sup> Table 1 summarizes findings obtained from several of these studies. The table shows that these groups share a low incidence of coronary heart disease, hypertension, obesity, and low serum cholesterol levels, despite the fact that dietary fat

From the Neurocardiology Program of the Departments of Medicine and Preventive Medicine and Public Health, University of Oklahoma Medical Center, Oklahoma City, Oklahoma.

Social Factors / BRUHN

comprises at least 35 per cent of their total caloric intake. Although these groups are also generally very active physically, physical activity alone does not fully account for these striking findings. Of equal importance is the fact that these groups share a stable environment and adhere to a way of life characterized by ethnic homogeneity and strong group alliances. It has been found that employees working in the same environment, on the same shift, and with the same co-workers, have lower serum cholesterol levels than employees working on rotating shifts with different co-workers.<sup>14</sup> Similar observations have been made in a study of twins. It was observed that the serum cho-

lesterol levels of monozygotic twins living apart were higher than among monozygotic twins living together.<sup>15</sup> Recently there has been evidence extending the beneficial effects of a stable environment to include lower mortality rates from all diseases, and deaths from coronary heart disease in particular.<sup>16-17</sup> Although coronary patients have been shown to manifest higher serum cholesterol levels than controls, even in "protected" groups, there appears to be no direct correlation between the amount of fat ingested and the level of cholesterol in the serum.<sup>18</sup>

ADAPTABILITY

Although the above evidence clearly indicates the relevance of factors other than in-

Table 1  
Summary of Findings from Several Studies Investigating the Relationship Between Dietary Factors and Coronary Heart Disease\*

Group Studied	Clinical Criteria for Diagnosis of CHD	Prevalence of CHD
Masai****	Physical exam and ECG	Low
Swiss Alpine Villagers <sup>4</sup>	Physical exam and dietary survey	—
Benedictine Monks <sup>5</sup>	Physical exam and ECG	Myocardial Infarction uncommon
Navajo Indians <sup>6</sup>	Physical exam, ECG, autopsy	Low
South African Bantu <sup>7</sup>	Physical exam, ECG, autopsy,	Low—less severe athero.
Apache Indians <sup>8</sup>	Physical exam and ECG	Low
Bedouin Jews <sup>9</sup>	Physical exam and ECG	Low
Samburu of Kenya <sup>10</sup>	Physical exam and ECG	Low
Cretans <sup>11</sup>	Physical exam and ECG	Low
Polynesians from remote Islands <sup>12</sup>	Physical exam and ECG	No Infarctions or Myocardial Ischemia
Italians in New York City <sup>13</sup>	Physical exam and ECG	Lower than Jewish clothing workers

\*The groups presented here were selected because more complete information was reported for them. For some categories, however, only a relative judgment of "high" or "low" was reported.

\*\*Although the precise figures are lacking, it has been found that generally American Indians of the Southwest,

gested fat, environmental stability is not the only factor explaining the occurrence of low serum cholesterol levels among some social groups. Given a favorable environment, there are always certain individuals who do not, or can not adapt effectively. Perhaps the most dramatic example of non-conformity to group standards is that of so-called psychogenic death. There have been numerous reports of vigorous, young, apparently healthy individuals of primitive tribes who, believing that they had violated a taboo, died within a few days.<sup>19</sup> The experiments of Richter concerning the relation between adaptation and death in rats is also pertinent. Electrocardiograms were taken while rats were forced to swim in a tank of water from which they could not escape. Death occurred after many hours, always in the same fashion. The rats dived to the

the bottom of the tank and as their pulse slowed, cardiac arrest followed. This process was hastened when the rat's moustache hairs were clipped, depriving them of their source of orientation to their environment. It is of particular interest that when the moustache hairs were clipped from "wild" rats, they survived a shorter time than did domesticated rats which were also deprived of their hairs.<sup>20</sup> It is unknown whether comparable effects may occur in humans, especially in relation to voodoo death, or sudden death in civilized societies. Yet these examples suggest the importance of adaptability in adjusting to new situations or to situations where previous means of adaptation are not workable.

Adaptation may have both positive and negative implications. Some research has indicated that the inability to adapt to vari-

Prevalence of Hypertension	Mean Cholesterol	% Total Diet Fat	Prevalence of Obesity	Exercise
Low	125	High milk use, 187 g. dairy fat	Low	Walk long distances
—	< 200	34%	Low	Intense and continuous
Low	258	35%	Low	Moderate
—**	176	High	Low for males	Moderate
Low	Low	—	Uncommon	Active, agrarian
—**	198	24%	Low for males	Moderate
—	155	About 30% among well-to-do	Low	Much exercise, agrarian
Low	166	High milk intake, 60%	Low	Much walking, agrarian
Low	182	29% of diet, olive oil alone	Low	Much walking, farmers
Low	235	High coconut fat, 33% cal.	Low	Live spartan-like life
Low	222	35%	Low for males	Moderate, clothing workers

especially those residing on reservations, have a lower prevalence of hypertension compared to other Americans. (See B. M. Cohen, *Amer. J. Med. Sci.*, 225:505, 1953).

\*Indicates bibliographic reference.



ous situations may result in various types of stress, which in turn, leads to elevated cholesterol levels. In an intensive study of ambulatory patients and controls over a number of years, significant elevations in serum cholesterol and lipoproteins were observed among *both* groups during periods independently judged to be stressful, with little evidence of change in diet or body weight.<sup>21</sup> Since the subjects in this experiment were ambulatory, and the effects of diet and exercise could not be completely ruled out, a further study was undertaken while the subjects were hospitalized where diet and exercise were controlled. It was found that striking alterations in serum cholesterol and triglycerides could be brought about during stress interviews, within 60 minutes, without change in diet or exercise.<sup>22</sup> Other investigators have reported that men with coronary heart disease generally comprise a unique behavior pattern, Type A. This behavior pattern is characterized by intense ambition, competitive drive, constant preoccupation with occupational deadlines, and a sense of time urgency. These men maintained higher serum cholesterol levels and a shorter blood clotting time, irrespective of total calorie and fat intake or amount of physical activity, when compared to men who exhibited a converse behavior pattern, Type B.<sup>23</sup> Recent data also have indicated that individuals with higher cholesterol levels show a slow heart-rate recovery from stress.<sup>24</sup> It has been suggested that stress results from the failure of the organism to successfully solve problems in his physical, social or cultural environments. Failure in mastering problems requires the organism to use excess energy and resources over what would have been required had mastery been achieved. Thus, the organism is in a continual state of mobilization, or tension. To the extent that this state of tension exists, the organism may be said to be experiencing stress.<sup>25</sup> In this vein, Selye has suggested that aging itself, and particularly premature aging, is, in a sense, due to the inability or the ineffectiveness of the organism in adapting to constant environmental stresses.<sup>26</sup> This idea coincides with the frequent clinical ob-

servation that coronary patients frequently appear older than their stated age.

Adaptation also has positive implications. Other investigators have reported that the human organism is capable of adapting effectively to aging, seasonal variations and physical exercise. Reports generally concur that cholesterol levels increase with age.<sup>27</sup> This variation with age apparently is not related to differences in dietary fat intake *per se*, but rather to the increased rate of lipid absorption and utilization occurring in older people. It is also clear that there are endogenous sources of cholesterol, other than dietary fat, from which the body mobilizes lipids when the supply falls below what is required. Similar evidence has been shown with respect to seasonal variation and physical exercise. Serum cholesterol levels have been found to decrease during the spring and summer months. Dietary changes during these months appear to consist of caloric reduction, but the proportions of calories from total fat, animal fat or carbohydrates shows no significant reductions.<sup>28</sup> Resting serum cholesterol levels have been found to decrease with regular physical exercise, but to rise significantly during vigorous exercise.<sup>29</sup> Since the ingestion of dietary fat is not a factor during, or following exercise, the significant alteration in cholesterol suggests an endogenous source essential to the organism in the recovery phase. The precise effect of physical exercise on serum cholesterol levels is not clear at present, since in some studies there is little or no information on diet. However, it has been shown that cardiac patients who engage in regular, vigorous physical activity show a significant lowering of systolic and diastolic blood pressure and pulse rate during rest, standing, and comparable levels of energy expenditure.

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These results were comparable to those observed in a group of apparently healthy controls, suggesting that the cardiac patient has the potential of responding to physical conditioning in a manner similar to that known to occur in presumably healthy men. It was observed that cardiac patients engaged in regular physical exercise also exhibited simultaneous changes in their psychological attitudes and altered many aspects of their pre-coronary way of life.<sup>30</sup> These findings would seem to indicate that adapting to the situation of illness itself has not only cardiovascular, but social and psychological implications.

#### VARIABILITY

A factor intimately related to environmental stability and adaptability is the variability of the human organism. This individual variability is often obscured in research among coronary patients through the common use of "group means" in reporting findings. Several studies, nevertheless, have emphasized the importance of consistent elevations or large fluctuations in, for example, individual cholesterol levels. If it is accepted that every human organism is in a continual life-long state of adaptation, it is reasonable that physiological measurements also will vary from individual to individual. Hence, the use of "group means" may mask many important individual differences in physiological measurements taken over time. In studying the coronary patient it is important to observe and obtain measurements over time in order to establish individual norms, or baseline measurements from which all variations may be observed. In this manner it would be possible to determine whether elevations or gross fluctuations in measurements represent abnormality for the individual or merely reflect a stage of adaptation. It may be equally important to know the span of time within which these measurements change as well as the amount of change occurring within a given span of time.

An interesting aspect of human variability is reflected in studies which show that although changes in pulse rate and blood pressure occur during sleeping or dreaming, or when produced experimentally by hypnosis,

there is not sufficient explanation for the development or continuance of these symptoms during the waking state of the organism. Despite the constancy of the social environment during sleep however, the brain is constantly processing and integrating old and new information, both of which are intimately related to the life experience of the individual. Physiologic changes observed during sleep therefore, relate in part to the degree that certain life experiences have been repressed and are permitted to emerge when psychological defense mechanisms are relaxed. The psycho-physiological functioning of any given individual is presumably unique. These individual differences undoubtedly derive from both genetically determined variables and interaction with one's environment from birth onward. Therefore, it is not surprising that many psychosocial and physiologic functions have been implicated in the etiology of coronary heart disease. A host of bodily systems including the endocrine and sympathetic nervous systems, as well as genetic factors, have been suggested as playing a role.

Since the human organism reacts as a whole within many environments and is in a constant state of change, it would seem that any definitive approach to the study of this disease would involve the simultaneous and cooperative evaluation of psycho-social, physiologic and environmental factors. Given repeated physiological measurements on the same individuals over time it would be possible to correlate these with psycho-social variables which were studied during the same period. With such an approach it should be possible to extract common and uncommon factors in this complex disease.<sup>31</sup>

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### OSMA Regional Postgraduate Course

## "RESPIRATORY INFECTIONS"

February 21st, 1967

Bartlett Memorial Hospital, Sapulpa, Oklahoma

#### AFTERNOON SESSION

4:30 P.M. *INFECTIONS OF UPPER RESPIRATORY TRACT*

Harold G. Muchmore, M.D.

5:30 P.M. *ACUTE AND CHRONIC BRONCHITIS*

James F. Hammarsten, M.D.

#### EVENING SESSION

7:30 P.M. *PNEUMONIA*

Everett R. Rhoades, M.D.

8:15 P.M. *PANEL: COMPLICATIONS ASSOCIATED WITH RESPIRATORY INFECTIONS*

Harold G. Muchmore, M.D.

James F. Hammarsten, M.D.

Everett R. Rhoades, M.D.

Registration \$7.50 includes dinner

Acceptable for 4 hours Category 1 credit by the American Academy of General Practice



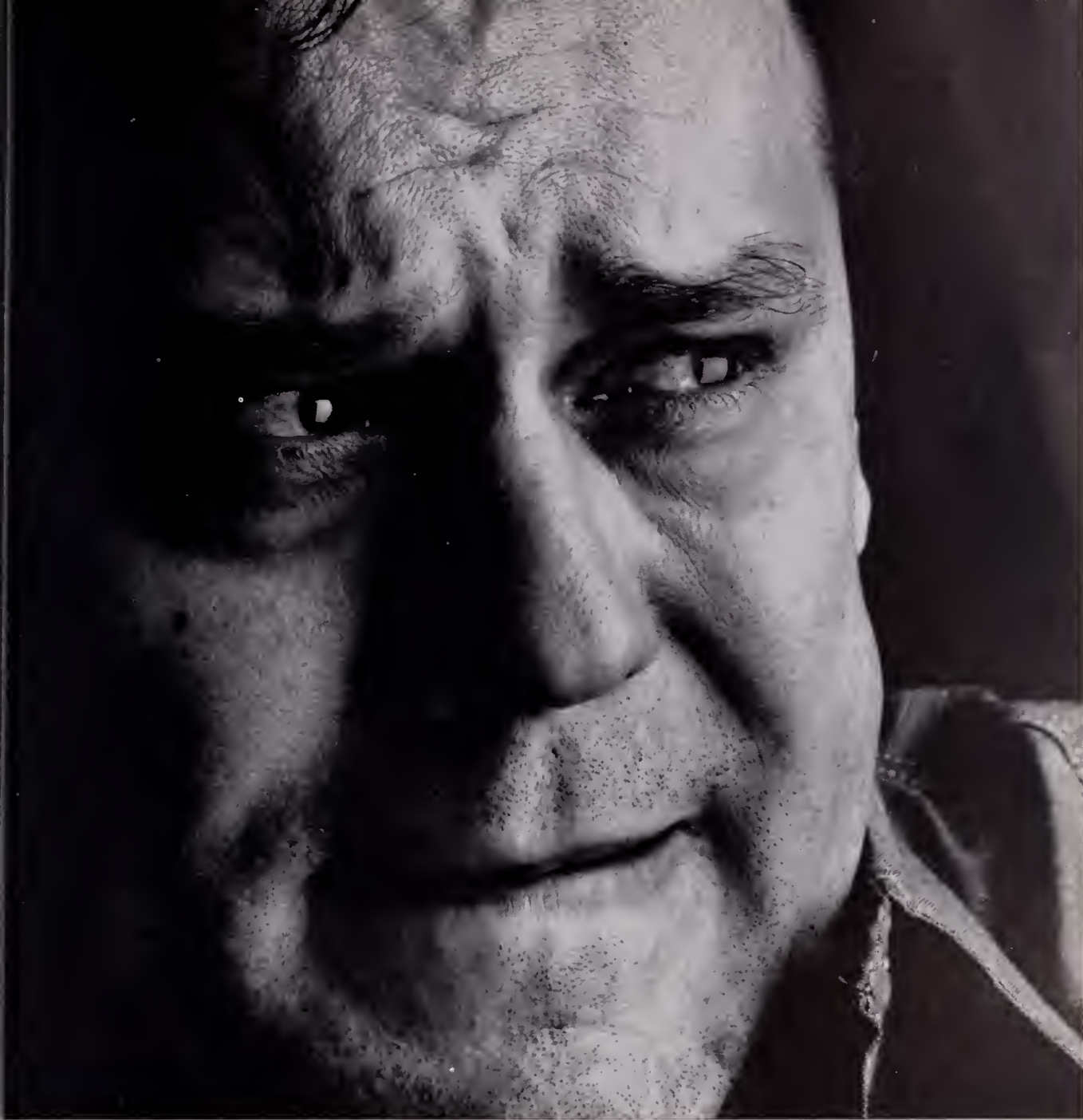


Photo professionally posed

## Mike expects a penicillin injection. He's about to be pleasantly surprised.

His physician is going to prescribe an oral penicillin — **PEN • VEE® K** (potassium phenoxymethyl penicillin). It's usually so rapidly and completely absorbed that therapeutic serum levels are produced in 15 to 30 minutes. Higher serum levels generally last longer than with oral penicillin G.

**Indications:** Infections due to pathogens susceptible to oral penicillin G. Prophylaxis of rheumatic fever in patients with previous history of the disease.

**Precautions:** Skin rash, symptoms resembling those of serum sickness, or other manifestations of penicillin-allergy may occur. Measures for treating anaphylaxis should be readily available: epinephrine, oxygen and pressor drugs for relief of immediate allergic reactions; anti-

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**Contraindications:** Infections caused by nonsusceptible organisms; history of penicillin sensitivity.

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# Physical Examination of the Heart in Ischemic Heart Disease

JOHN M. KALBFLEISCH, M.D.

*Valuable clinical information often unobtainable by other methods of patient monitoring is provided by frequent physical examinations of the precordium in ischemic heart disease.*

WITH THE ADVENT of electrical monitoring devices and coronary care units, physicians may tend to relax so far as performing frequent physical examinations due to the misconception that all is being taken care of. Unquestionably some of the success of coronary care units has been due to earlier recognition of complications. However, phenomena which can be either heard or felt occur with sufficient frequency to merit emphasis since they may not be obtainable by other means. These helpful clinical signs often provide the first clue to various complications or may signify a worsening course. They may be an indication to institute or alter therapeutic measures. The following

is a summary of pertinent physical findings which should be sought repeatedly when managing patients with coronary heart disease.

## INSPECTION AND PALPATION OF THE PRECORDIUM

Careful visual and manual examinations of the apical region, the area of the xiphoid, the mid-precordium, the left parasternal region and the pulmonic area should be done with the patient supine. If the examination is restricted to the apex, many abnormal pulsations may be missed.<sup>1</sup>

When left ventricular hypertrophy is present, the apex impulse may be displaced laterally outside the midclavicular line. It is larger, more sustained and more forceful than the normal impulse. Occasionally an abnormal apical impulse may be diagnostic of left ventricular hypertrophy in the presence of a normal electrocardiogram or chest roentgenogram.

Abnormal systolic pulsations due to myocardial infarction or associated with angina pectoris may occur at the apex, epigastrium, parasternal region or mid-precordium. These paradoxical motions can be detected in about 68 per cent of the patients who have had a myocardial infarction by an inexpensive device which records low-frequency precordial

From the Department of Medicine and the Neurocardiology Research Program of the University of Oklahoma Medical Center, Oklahoma City, Oklahoma.

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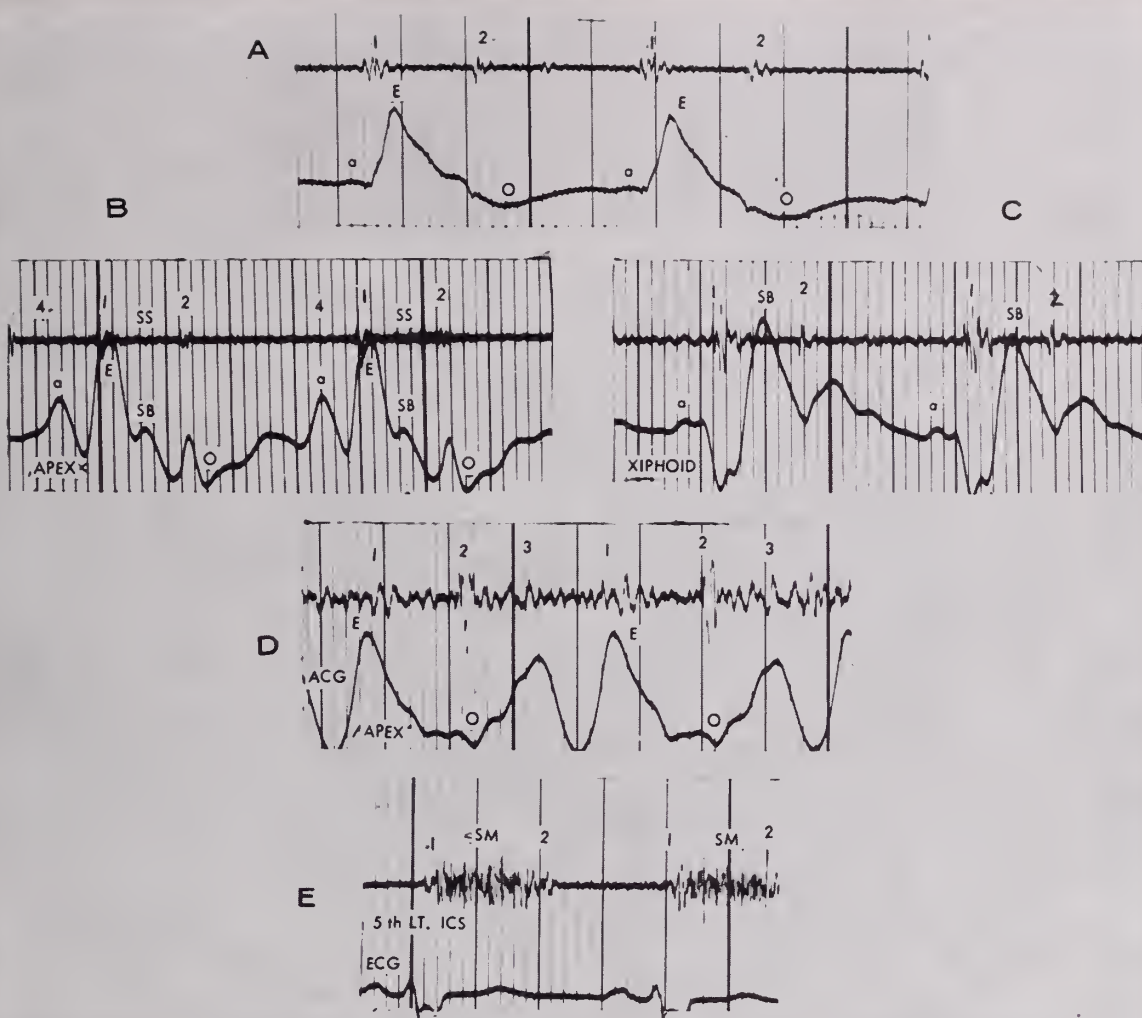


Figure 1

## Recording

A. A normal apex cardiogram (lower tracing) recorded simultaneously with a phonocardiogram (upper tracing). The numbers 1 and 2 represent the first and second heart sounds. The letter E identifies the ejection peak and corresponds with the onset of left ventricular contraction. It occurs at the end of the first heart sound while the "a" wave corresponding with atrial contraction occurs just prior to the first heart sound. The lowest depression of the curve, labeled O, indicates opening of the mitral valve and is followed by diastolic filling waves. Vertical time lines represent 0.04 seconds.

B. An apex cardiogram and phonocardiogram from a patient one year following a myocardial infarction shows an "a" wave which was easily palpated. Note that a fourth heart sound or atrial gallop (4) occurs simultaneously with the "a" wave. The hump on the downslope of the ejection curve (E) represents a systolic bulge (SB).

C. A second tracing recorded on the same subject (B) near the xiphoid demonstrates a prominent mid-systolic bulge (SB) which represents a "physiologic aneurysm." This pulsation was easily palpated. It occurs later than the normal ejection peak, but it may occur at any time in systole.

D. The apex cardiogram of a patient with diffuse myocardial disease due to atherosclerosis has a prominent peak in mid-diastole accompanied by a third heart sound or ventricular gallop (3). Such an event may be readily appreciated by palpation. Correct timing can be made by simultaneous auscultation and identification of the heart sounds.

E. A phonocardiogram from the fifth left intercostal space near the sternum recorded simultaneously with a lead II electrocardiogram from a patient with a recent anteroapical myocardial infarction revealed a loud holosystolic murmur (SM). A palpable thrill accompanied the murmur. The clinical impression of a ruptured interventricular septum was confirmed by cardiac catheterization and the patient underwent successful surgical repair.



movements.<sup>2,3</sup> This technique, which provides a graphic record, is termed kinetocardiography or apex cardiography. Examples are shown in figure 1. The apex cardiogram is a more sensitive instrument than a trained clinician's hand but the majority of such bulges should be seen or felt.

The paradoxical pulsations of myocardial infarction and angina pectoris occur in early, middle or late systole or as a sustained bulge. Such pulsations have been termed "physiologic aneurysms" and are due to ballooning out of an ischemic area of myocardium. A bulge may be present during an attack of angina pectoris but absent when the pain subsides. They may persist for many years following myocardial infarction. At times, differentiation of "physiological" and true ventricular aneurysms is difficult. Such a situation can be resolved ultimately by cardiac catheterization and roentgenographic contrast studies of the left ventricle.

The adept clinician learns to appreciate abnormal diastolic movements of the precordium. Both atrial and ventricular gallop rhythms often can be seen and felt as is demonstrated in recordings B and D of figure 1. It should be emphasized that accurate timing of visible or palpable precordial movements depends on simultaneous auscultation of heart sounds.

Signs of a complicating pulmonary embolism may be in evidence when there is a vigorous pulmonary artery pulsation which may be both visible and palpable in the second or third left intercostal space. A loud second heart sound associated with pulmonary hypertension is often felt in the same area. The presence of a parasternal lift lends support to the diagnosis.

The major limitations of inspection and palpation of the precordium are imposed by obesity, chest deformities, and pulmonary emphysema. However, careful examination even in the presence of these abnormalities may be quite rewarding when correlated with the total clinical picture. The information derived may not be obtainable by other methods.

#### AUSCULTATION

Heart sounds are frequently described as distant or muffled following myocardial in-

farction. Such changes reflect alterations in cardiac rate, cardiac output, and in the force and velocity of myocardial contraction. When the heart sounds are diminished mild hypotension is commonly present or a shocklike state may develop. Also, mild hypertension with normal heart sounds or accentuation of the aortic component of the second sound are not unusual.

Variation in intensity of the first heart sound is heard in atrial fibrillation, complete heart block, and any arrhythmia which produces discordant atrial and ventricular contraction. A complete right bundle branch block causes wide splitting of the first and second heart sounds. Either complete or incomplete left bundle branch block may produce paradoxical splitting of the second heart sound.<sup>4</sup>

#### GALLOP RHYTHMS

The so-called triple cadence rhythm results from accentuation of a third or fourth heart sound. The appearance of these sounds in adults with ischemic heart disease is abnormal and signifies a diminution of ventricular function. Both sounds occur in diastole. The third heart sound follows the second by 0.12 to 0.16 seconds. It occurs during early ventricular filling and is termed a ventricular or protodiastolic gallop. To the unaware observer the third sound is often thought to be a split second sound. However, the third sound is best heard at the apex where splitting of the second sound is rarely heard. The fourth heart sound results from increased atrial contraction against a ventricular chamber which has lost its normal distensibility. It occurs just before the first heart sound and is called an atrial or presystolic gallop.

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The presence of an accentuated third or fourth heart sound has been observed in 25 per cent to 47 per cent of patients following myocardial infarction.<sup>5</sup> An atrial gallop occurs more frequently than a ventricular gallop but it is less commonly accompanied by congestive heart failure. A ventricular gallop rhythm may be the earliest indication of congestive heart failure. Its recognition should lead to early institution of therapy for ventricular failure thereby preventing potentially fatal pulmonary edema.

#### MURMURS AND RUBS

A pericardial friction rub commonly appears from two to five days after an acute myocardial infarction. It may be transient or persistent. Classically it has systolic, early diastolic and presystolic components accounting for the "to-fro" character. At times, only one or two components may be audible. If a friction rub is noted or persists after the first week, either extension of the infarction, postmyocardial infarction pericarditis, or hemorrhagic pericarditis due to anticoagulants should be suspected.

The sudden appearance of a loud pansystolic murmur probably indicates rupture of either the interventricular septum or a papillary muscle. A rapid downhill course may accompany either event. However, prolonged survival and successful surgical repair of both conditions have been reported. Typically, the murmur of a ruptured interventricular septum is near the sternum in the fourth or fifth left intercostal space as illustrated in recording E in figure 1. It is commonly accompanied by a thrill. The murmur of mitral insufficiency produced by a ruptured papillary muscle is heard maximally at the apex. A thrill is less common. Vigorous therapy for congestive heart failure should be instituted with the appearance of either condition. Patients who survive the fourth week should be considered for surgical correction.

A syndrome of papillary muscle dysfunction resulting from myocardial infarction produces a late systolic murmur at the apex.<sup>6</sup> The murmur may be crescendo or holosystolic in type. It is most commonly heard with involvement of the anterolateral papillary muscle. The differentiation of papillary muscle dysfunction from functional mitral insufficiency resulting from ventricular dilatation cannot always be made with certainty.

Obviously the importance of other more apparent findings and symptoms such as distended neck veins, basilar inspiratory rales, dyspnea, hepatic enlargement and edema should not be minimized. However, recognition of the previously described physical signs and their proper interpretation in context with the total clinical picture will lead to better patient management and a reduced mortality.

#### SUMMARY

Abnormal findings in ischemic heart disease by inspection, palpation and auscultation of the precordium are reviewed. Early detection and proper interpretation of these clinical signs should lead to improved patient management and enhanced survival. Monitoring of changes in physical signs by the physician is complementary to electrical monitoring of heart rate, rhythm and electrocardiogram. □

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# Physical Activity and Coronary Atherosclerosis

JOHN NAUGHTON, M.D.  
MICHAEL T. LATEGOLA, Ph.D.

*"Regular physical activity may be a keystone to the prevention of clinically manifest coronary artery disease" is an attractive hypothesis that requires a challenging scientific exploration before physicians can judiciously advise our adult population of its potential implications.*

MANY ASPECTS of man's environment have been investigated during the past 20 years in an attempt to discover the cause of coronary atherosclerosis. Thus far the results have been rewarding in that a relationship has been established between the clinical manifestation of this disease and the occurrence of such factors as hypertension, hypercholesterolemia, obesity, heavy cigarette smoking and excessive coffee intake. Despite these advances, a single cause still has not been defined, and some important environmental aspects such as psychosocial factors and physical activity have not been

adequately appraised. Part of the failure to study these areas in more detail was the difficulty in quantitating the information until recently. As reported in Bruhn's contribution in this issue, some progress has been made in the psychosocial area. It is the purpose of this communication to review some of the available information concerning the possible relation of physical activity to the clinical manifestations of coronary atherosclerosis, *i.e.*, angina pectoris and myocardial infarction, and to report on related studies being conducted by us.

That a relationship might exist between the level of daily physical activity and the occurrence of myocardial infarction was reported by Morris, *et al.*<sup>1</sup> in 1953. This group found a significantly higher incidence of myocardial infarction in London transport drivers than in conductors and in sedentary postal employees as compared to mail carriers. However, they found a higher incidence of angina pectoris in the two physically active groups of men, which suggested that although physical activity may not prevent the development of atherosclerosis, it may provide some protection against myocardial infarction. In 1956 Morris' group<sup>2</sup> reported that the bus drivers were taller, heavier and had a greater abdominal girth than did the conductors. They later surveyed post-mortem data from 206 hospitals in England<sup>3</sup> and reported that the hearts from men who were classified as active based on their

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last known occupation had areas of "small, multiple scars" in the myocardium associated with minor degrees of focal narrowing low in the main coronary artery.<sup>4</sup> The sedentary group had a "large, discrete patch . . . over 1.5 cm in one dimension and often solitary . . . commonly transmural . . . and presumably the end result of major infarction." However, they also found that some stone-masons and boilermakers had a high incidence of scars suggesting that overly strenuous activity as well as other factors such as smoking, obesity and diet may be as important to evaluate as is relative inactivity. However, despite the cardiac pathology, the conditioning provided by the heavier work may have enhanced survivability following cardiac episodes.

These reports by Morris and his colleagues have been followed by several other population studies, all but one of which<sup>5</sup> established an inverse relationship between regular physical activity and the clinical manifestations of myocardial infarction. In 1959, Zukel, *et al.*,<sup>6</sup> reported that North Dakota farmers had one-half the incidence of myocardial infarction, but twice that of angina pectoris, as did men from other population groups in the same area. Pomeroy and White followed 355 former Harvard football players for many years and reported<sup>7</sup> that none of the 38 men who remained physically active in the intervening 25 to 50 years had evidence of myocardial infarction, while there were 25 documented episodes among men who had become less active after leaving college. Those men who were victims of myocardial infarction had gained weight, possessed a family history of coronary artery disease, were heavy smokers and had a high incidence of divorce. Taylor, *et al.*,<sup>8</sup> reported a lower incidence of coronary heart disease in railroad yard workers than in railway clerks.

The aforementioned findings make it very attractive to hypothesize that the clinical manifestations of myocardial infarction may be delayed, if not prevented, by regular lifelong physical activity. Unfortunately, very little data is available to support this concept. Only a few studies are available which document the level of physical fitness possessed by middle-aged men<sup>9, 10, 11</sup> and none of

them have followed individuals longitudinally to determine whether or not the men with high levels of physical fitness have a lower incidence of heart disease than the men with low levels. In addition, very little autopsy data is available concerning the states of the coronary arterial circulation in men who have remained physically active throughout life. Fortunately, a post-mortem examination was performed on the famous marathon runner, Clarence DeMar, the subject of a longitudinal investigation which extended over a period of about 30 years. His myocardium was free of infarction<sup>12</sup> while his coronary vessels and aorta did have some degree of sclerosis. The coronary arteries were two to three times larger than those of most men his age, suggesting that these arteries were either congenitally enlarged or had enlarged as a result of lifelong strenuous physical activity.

These studies demonstrate a need to investigate the relationship of regular physical activity to the clinical occurrence of disease, particularly coronary atherosclerosis, in greater depth. Since 1961, collaborative studies have been in progress in an attempt to determine what the effects of the institution of programs of regular physical activity are in healthy, middle-aged men and in patients with well-documented episodes of myocardial infarction.

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## HEALTHY POPULATION STUDY

### A. *Materials and Methods*

Presumably healthy men have volunteered to perform a standardized physical working capacity test<sup>13</sup> before beginning a program of regular physical activity. The men reported to the laboratory either fasting or two hours after eating. A pertinent history and physical examination were performed. Following a trial walk on a motor-driven treadmill, each man began walking at a speed of 3.4 mph on a one per cent grade. The speed was held constant while the slope of the treadmill bed was elevated one per cent each minute. Blood pressure and pulse rate were monitored by the auscultatory method during the last half of each minute and a single lead electrocardiogram was monitored continuously. Respiratory gas exchange was determined every other minute. Walking was terminated either when the pulse rate reached 180/min or earlier if the subject developed symptoms of hypotension, dyspnea, chest pain or claudication.

Following the evaluation the men began a program of gradually increasing physical activity under the supervision of professional YMCA personnel. The program was conducted as 30-minute exercise periods three times a week. The men participated either in the early morning, at noon or between five and six o'clock in the evening. Activities included isometric exercises, calisthenics and intermittent jogging. They were re-evaluated periodically in the manner described above.

### B. *Results*

Thus far, 213 men ranging in age from 20 to 55 years have been tested. Regardless of their age group, the peak oxygen intake, a value which identifies with fair reliability the upper limits of performance of an individual, has averaged from 32.1 to 32.9 ml/kg/min, a value approximately nine times the resting metabolic requirement of 3.5 ml O<sub>2</sub>/kg/min. Peak oxygen intakes in excess of 35.0 ml/kg/min were observed only in those men who had maintained some program of regular physical activity throughout their adult life. The highest oxygen intakes recorded were 44.0 ml/kg/min in the profes-

sional personnel of the YMCA. These values compared favorably with those previously recorded in sedentary populations by Balke<sup>13</sup> and in medical personnel.<sup>14</sup> An initial survey<sup>15</sup> revealed that after seven months of regular physical activity 18 men had increased their peak oxygen uptake from 31.3 to 36.8 ml/kg/min. In this same group training was accompanied by a statistically significant decrease ( $p < 0.05$ ) of the systolic and diastolic blood pressures and of pulse rate during standing and at comparable levels of energy expenditure.

Although these studies were designed to evaluate healthy people, the alterations demonstrated the potential importance of studying the effects of physical activity on individuals who possess such "high risk factors" as hypertension, hypercholesterolemia and obesity. It may be that if these factors could be altered by programs of regular physical activity, then those "high risk" individuals might have a method of adapting to their disease process. Thus far, four of the 213 men have gone on to develop clinical evidence of coronary artery disease. Three of these subjects had peak oxygen intake levels below the mean for the total group while one subject had been regularly active for a long period of years. All of them had at least one of the so-called coronary risk factors and two of them had a combination of hypertension, obesity and hypercholesterolemia.

## CARDIAC SUBJECTS

### A. *Materials and Methods*

Cardiac patients performed an exercise tolerance test which utilized the same principles as the maximum work capacity test, yet varied in the degree of physical stress that could be induced. Each subject began walking on the treadmill at a speed of 2.0 mph. The speed remained constant and the slope of the treadmill bed was elevated three and one-half per cent every three minutes while the identical physiologic parameters were recorded. Each energy demand represented an additional increment in terms of the resting metabolic state, *i.e.*, two, three, four times the work of rest. Walking was terminated either on a 17.5 per cent grade (energy demand approximating seven times the oxygen demand of rest) or earlier if the



subject became symptomatic. Age-matched sedentary control subjects performed this same test.

A group of patients remained sedentary while another group volunteered to participate in a long-term physical conditioning program. The activities were conducted in a gymnasium under medical supervision and included calisthenics, intermittent jogging and competitive games (usually volleyball). The program was conducted one hour each day. The subjects were asked to participate a minimum of three times a week. The two groups were re-evaluated in the same manner at periodic intervals.

### B. Results

Ten clinically asymptomatic men with healed myocardial infarctions had physiologic adaptations to gradually increased levels of physical stress which were comparable to those recorded in ten healthy executives and ten employees of a large electrical firm.<sup>16</sup> Although these studies did not determine the peak aerobic working capacity, the information suggested that these patients had a working capacity comparable to that of presumably healthy, sedentary men. In 1953, Chapman, *et al.*,<sup>17</sup> reported that healed myocardial infarct patients use the same physiologic mechanisms to increase their cardiac output during exercise as healthy men and he found no essential difference between the response in the two groups.

These data suggested that this type of patient might respond to physical training in a manner similar to that documented in the healthy, middle-aged men. When studied again after eight months of physical reconditioning, 12 cardiac subjects had developed statistically significant decreases ( $p < 0.05$ ) of their systolic and diastolic blood pressures and of their pulse rates at comparable levels of energy expenditure.<sup>18</sup> Clinically, these patients had increased their physical working capacity. Thus it was demonstrated that some cardiac patients have the capacity to develop physiologic evidence of training. On the other hand, those healthy and cardiac subjects who remained sedentary did not show any alterations in their physiologic adaptations when re-tested eight months later.

During the first two years of the cardiac reconditioning study, 20 men participated for three months or longer.<sup>19</sup> Nineteen of the 20 returned to full-time employment and all but one had some objective evidence of physiologic improvement. This single individual died two months after leaving the program. When his records were reviewed it was found that he had not developed any evidence of having obtained "a training effect." It was surmised that his atherosclerotic disease was too far advanced and that extensive myocardial involvement and impairment had prevented him from becoming reconditioned. A second death occurred in the program in a patient who had sustained two episodes of myocardial infarction at approximately one-year intervals. His third attack occurred following exercise almost a year following his second episode. Again, his disease process was probably too extensive to allow him to develop and maintain a conditioning effect.

Much remains to be learned about the adaptive capacity of the patient who has known coronary atherosclerosis and of the effects that active intervention may have in helping him to adapt further to this disease process. Thus far, our studies have been limited to volunteers and have not included detailed evaluations of patients with other complications of atherosclerosis.

### DISCUSSION

The epidemiological and intervention studies reported here have provided some clues that physical activity may be inversely related to the occurrence of coronary atherosclerosis, but they do not establish a causal relationship. The effects of regular physical conditioning are multifaceted, and include not only physiologic changes but metabolic and psychologic alterations as well. An important factor that may differentiate active from sedentary individuals may be that conditioning is accompanied by increased collateral circulation to the muscles. This promotes improved circulatory efficiency in these areas both during rest and at work. Such a change may be responsible in part, at least, for the reduction of the work of the heart that accompanies training as was evidenced by the consistently lowered systolic



blood pressure in both the healthy men and the cardiac subjects who trained. The lowered pulse rates at comparable levels of expenditure in these two groups indicated that trained men extract more oxygen per pulse beat than untrained subjects. In addition, conditioning may stimulate the development of coronary arterial collateralization. The main evidence for this is the work of Eckstein<sup>20</sup> which demonstrated an increased coronary arterial collateralization in dogs who were exercised after constriction of the circumflex coronary artery while very little change occurred in the vessels of the control groups of animals.

The potential clinical importance of establishing the relationship of physical activity to the occurrence of disease is obvious. If this simple innovation is associated with a reduced incidence of serious disease in middle-aged men, then physicians would be obligated to educate our younger population concerning the preventive aspects of regular physical activity. Although coronary atherosclerosis is probably a multifactorial disease, it is attractive to hypothesize that regular activity is the cornerstone of prevention. This concept is proposed because men who remain physically active usually weigh less, eat more regularly, smoke less and handle daily conflicts more effectively than do their sedentary colleagues. These characteristics of conditioned men emphasize the fact that the way of life of an individual may be the important factor in the development of clinical manifestations of coronary atherosclerosis.

Finally, although it is too early to draw any conclusions about the value of physical reconditioning in known cardiac subjects, the evidence is certainly encouraging that the patient with an uncomplicated, healed, single myocardial infarction may be an ideal candidate for such a program. While much still remains to be learned about the type and degree of physical activity that these patients should be allowed to perform, there is now a great deal of evidence which demonstrates that many of these patients can attain a physical working capacity equal to and sometimes greater than they possessed before their episode of myocardial infarc-

tion. Many of these patients have returned to work efforts at least as great, if not greater, than those they were performing before their illness. Obviously, while sweeping generalizations cannot be made and each patient must be appraised individually, the prospect that many patients can be rehabilitated is quite encouraging. Next it will be important to delineate those patients whose functional adjustments indicate that they may not respond to physical reconditioning favorably so that alternative programs may be designed for their rehabilitation.

## SUMMARY

Several population studies have demonstrated that the incidence of the clinical manifestations of coronary atherosclerosis is significantly lower in men whose occupations demand daily, regular physical activity than in men who work in sedentary occupations. Further work has shown that sedentary, middle-aged men do have the capacity to attain higher levels of physical working capacity through regular physical conditioning as shown by cardiovascular alterations which indicate improvement in their functional adaptive capacity. A pilot study demonstrated that some patients with known coronary atherosclerosis attained similar effects through regular physical activity. Further studies are needed to determine whether or not the so-called "high risk coronary factors" can be altered by long-term programs of regular physical activity. If so, then it may be possible to prevent many myocardial infarctions in our middle-aged population. □

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### **ANNUAL SPRING SYMPOSIA IN GYNECOLOGY AND OBSTETRICS MARCH 9th, 10th, 11th, 1967**

The Department of Gynecology and Obstetrics and the Office of Postgraduate Education  
University of Oklahoma School of Medicine—The Oklahoma State Department of Health

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### **DIAGNOSIS AND MANAGEMENT OF BENIGN AND MALIGNANT TUMORS**

- Two and one-half days of lecture and roundtable discussions
- Small group informal seminars

During the luncheon period the registrants will be divided into small groups for informal seminars, each directed by a member of the symposia faculty. Lunches and coffee will be provided and you will have an opportunity to discuss your own cases, problem area, or review the morning's discussion.

For final program write: Office of Postgraduate Education  
University of Oklahoma Medical Center  
800 Northeast 13th Street  
Oklahoma City, Oklahoma 73104

# Sudden Death

PAUL C. HOUK, M.D.

*Vagotonia has been implicated in the production of ventricular fibrillation and standstill in myocardial infarction and sudden death. Its induction may be due to the oxygen-conserving reflex.*

THE PROBLEM of sudden death is one of major importance in clinical medicine today. The sudden and unexpected death in a previously asymptomatic person or in the patient who has been making excellent clinical progress is both dramatic and tragic and the latter especially so when the autopsy reveals no definable cause. Anatomic studies have demonstrated the prominence of coronary artery disease in sudden death and the experience of medical examiners shows that the overwhelming majority of patients dying suddenly have underlying coronary disease.<sup>1</sup> For many years the pathophysiology of sudden death has been considered to be either cardiac standstill or ventricular fibrillation. McWilliam in 1889, suggested that the majority were due to ventricular fibrillation

and further suggested that it could be produced by “—inhibitory influences exerted through the vagus nerves and dependent on reflex excitation.”<sup>2</sup> Albutt further implicated the role of the vagus in sudden death in a lecture at Yarmouth in 1894 and then further delineated his ideas on the cause of cardiac asystole in his book on angina pectoris.<sup>3</sup> Later investigators including Starling in 1921 found evidence that vagal stimulation could induce varying degrees of heart block including complete heart block.<sup>4</sup> Experimental confirmation was achieved in man by Weiss, Ferris and Capps when they induced complete heart block by sudden inflation of a balloon in their patients’ esophagus.<sup>5</sup> From further studies on the autonomic control of the heart, Weiss concluded “—in the presence of ischemic myocardium and hyperactive reflexes, fright or other emotional stress may induce cardiac arrhythmias, syncope and death.”<sup>6</sup>

In the patient with either coronary occlusion with infarction or occlusion or stenosis without infarction, the myocardium is exposed to a precarious blood supply which may predispose to functional asymmetry of myocardial cells at any moment. Ionic imbalance, hypoxia, and hypotension can lead to electrophysiological disturbances in the myocardium which may produce heterotropic



activity. Vagal stimulation in the presence of these previously mentioned factors, by depressing the supraventricular pacemakers and atrioventricular conduction may greatly enhance the possibility of either ventricular standstill or fibrillation. Hellerstein and Turell found that gradual death was one and five-tenths times more frequent than sudden death in patients with coronary disease and that in those dying a sudden electrical death, downward displacement of the pacemaker and standstill occurred in 77 per cent, while only 23 per cent experienced heterotropic activity ending in ventricular fibrillation. When the exact moment of death was recorded, in only six per cent was ventricular fibrillation the cause of death.<sup>7</sup>

Anoxia leads to both depression and excitation of the myocardium and in man, apparently the former is predominant. Anoxia produces increased vagal activity and this activity can be blocked by sectioning the vagi or by atropine.<sup>8</sup>

The question of why vagotonia is induced in acute myocardial infarction has not been answered but it may be due to the oxygen-conserving reflex. The reflex is a complex and patterned response involving effector neurons of both the vagal and sympathetic systems. The circulatory adjustments are as profound and far reaching as occur in response to any physiological stimulus.<sup>9</sup> The circulatory adjustments of the oxygen-conserving reflex include intense peripheral and visceral vasoconstriction with diastolic hypertension and bradycardia and the metabolic changes of anerobic metabolism. These latter changes are a fall in oxygen saturation and blood pH and an elevation of serum potassium and lactic acid. The complex phenomenology of this oxygen-conserving reflex has been worked out over the past 90 years since Paul Bert's first identification of bradycardia in diving ducks.<sup>10</sup> Stimulated by the fundamental studies of Richet,<sup>11</sup> Irving<sup>12</sup> and Scholander,<sup>13</sup> several investigators have recently published detailed studies on a

variety of animal species including man.<sup>14-26</sup> The stimulus situation in most of the studies was breath holding under water. In such circumstances the full blown reflex appears almost at once and before any significant decrease in arterial oxygen saturation, hence the inference that the reflex is actuated by the threat of oxygen deprivation. Among the significant findings of the various studies of the reflex is the evidence that the manifestations include both cholinergic (bradycardia) and adrenergic (diastolic hypertension) components and further that in the case of the sympathetic system, the patterned response involves both activation and inhibition. The various elements of the reflex are apparently coordinated and mediated at the level of the midbrain in response to impulses relayed from the fifth cranial nerve in the case of water immersion, but also importantly in man from supertentorial sites as well, so that symbolic stimuli associated with the anticipation of diving may initiate the changes.<sup>23</sup> Indeed, other emotionally significant experiences such as harassment or fear may either inhibit or facilitate them. The full reflex has in fact been induced in healthy young men under circumstances of sudden fright.<sup>27</sup>

The lethal potential of an over-exuberant oxygen-conserving reflex appears fairly obvious. Not only may bradycardia proceed to actual cardiac standstill, but the fall in blood pH and the rise in serum potassium alter the irritability of the heart muscle and pre-dispose to fatal arrhythmia. □

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*Paul C. Houk, M.D., graduated from the University of Oklahoma School of Medicine in 1959, where he is now Instructor in Medicine. He is a member of the Alpha Omega Alpha.*

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800 N.E. 13th Street, Oklahoma City, Oklahoma

# DERMATOLOGY in GENERAL PRACTICE

## Wednesday Postgraduate Short Course University of Oklahoma Medical Center

Medical School Auditorium—March 8th, 1967—Oklahoma City, Oklahoma

### FACULTY

MARK ALLEN EVERETT, M.D.  
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Department of Dermatology

C. KENDRICK DORAN, M.D.  
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Department of Dermatology

DENNIS A. WEIGAND, M.D.  
Clinical Assistant  
Department of Dermatology

This course is designed to bring a contemporary approach to the commonly encountered dermatologic problems. Emphasis will be placed on the diagnosis by office laboratory techniques.

1:00 p.m. Registration and Coffee

1:15 p.m. PSORIASIS

Dennis A. Weigand, M.D.

1:45 p.m. CONTACT DERMATITIS

Robert L. Olson, M.D.

2:15 p.m. ECZEMA

Mark Allen Everett, M.D.

2:45 p.m. Intermission

3:00 p.m. FUNGUS INFECTIONS

Robert J. Morgan, M.D.

3:30 p.m. ACNE

Thomas E. Nix, Jr., M.D.

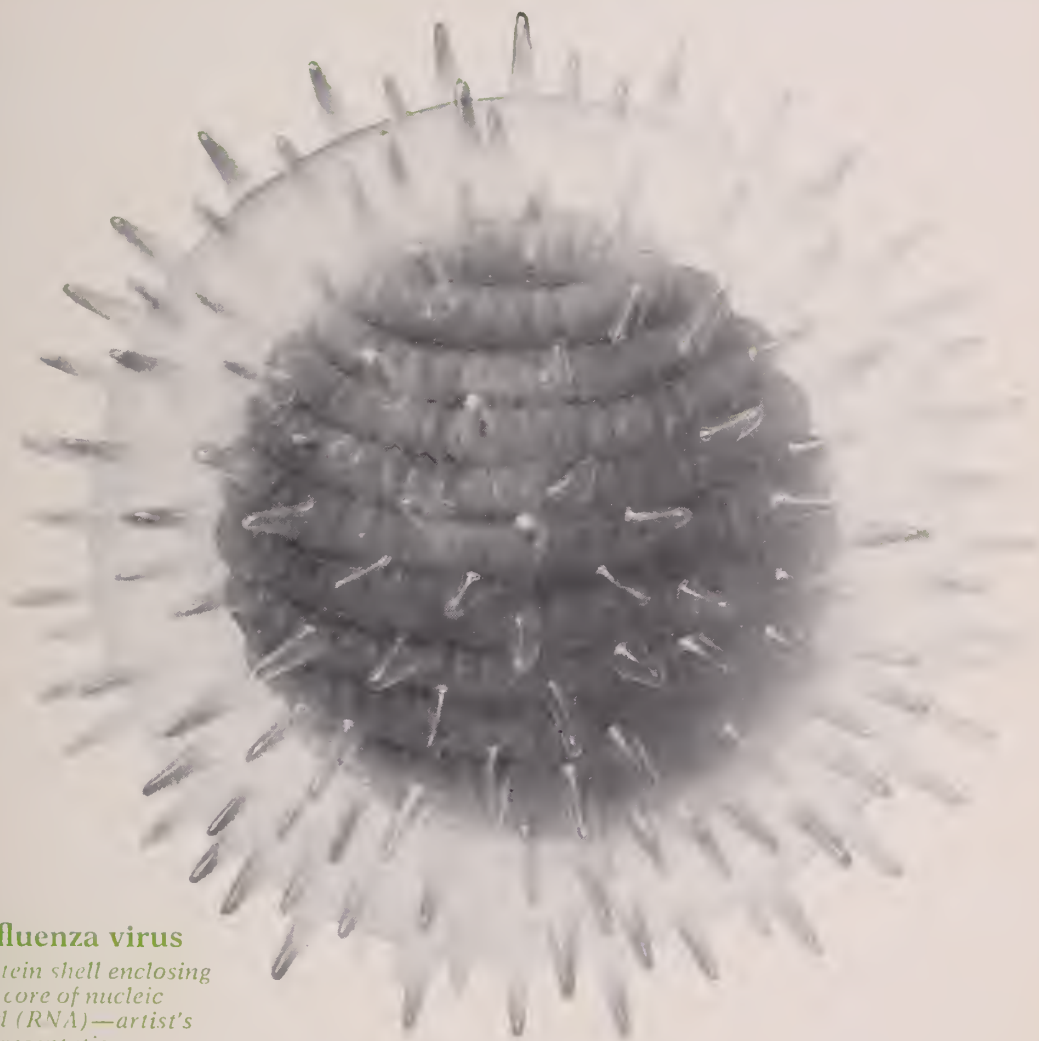
4:00 p.m. WARTS AND COMMON CUTANEOUS TUMORS

C. Kendrick Doran, M.D.

4:30 p.m. QUESTION AND ANSWER SESSION

New from Du Pont  
**Symmetrel**  
(Amantadine HCl)

the first oral chemical virostat for the prevention of influenza A<sub>2</sub>



**Influenza virus**

*Protein shell enclosing  
the core of nucleic  
acid (RNA)—artist's  
representation*

**The incidence of influenza A<sub>2</sub>.** In this country, where influenza is one of the leading causes of morbidity, influenza A<sub>2</sub> (Asian) continues to be a serious medical problem. In 1957 influenza A<sub>2</sub> was responsible for approximately 40,000 excess deaths in a three-month period. Since that year the most prevalent influenza virus has been A<sub>2</sub> (Asian).

**What is Symmetrel®?** "Symmetrel" (amantadine HCl) is a new synthetic chemical which acts as a molecular barrier to virus penetration. It provides for the first time specific oral medication for the prevention of respiratory infections caused by influenza A<sub>2</sub> (Asian) viruses—an entirely new approach in preventive medicine.

*For prescribing information, see last page of this presentation*



## What Symmetrel® (amantadine HCl) means to you

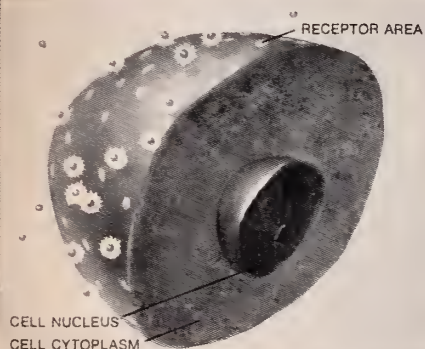
- ... the first and only oral chemical agent to prevent influenza A<sub>2</sub> (Asian).
- ...not a vaccine or antibiotic, but a new synthetic chemical unrelated to any other chemotherapeutic agent.
- ...unique mode of action: prevents virus penetration of the host cell without affecting vital cell functions.
- ...specifically active against all influenza A<sub>2</sub> viruses tested to date.
- ...not indicated for the prevention of influenzal or respiratory illness other than influenza A<sub>2</sub> or for the treatment of established disease.
- ...does not interfere with normal antibody response; acts in concert with pre-existing antibody.

## What Symmetrel® means to your patient

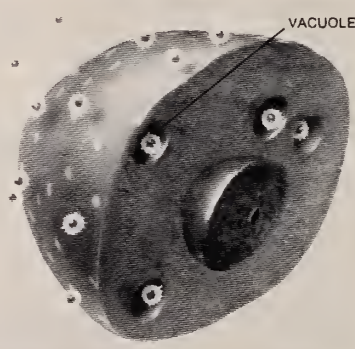
- ...possible immediate influenza A<sub>2</sub> protection when taken following suspected contact.
- ...may be particularly useful during outbreaks or epidemics and for high-risk patients in whom the occurrence of influenza A<sub>2</sub> is especially hazardous.
- ...a high degree of safety in clinical use.
- ...simple once daily or b.i.d. dosage.

## The mode of action of Symmetrel®

### How the influenza virus invades and destroys the untreated cell



**1** Viruses outside the cell attach themselves to specific cell receptor areas

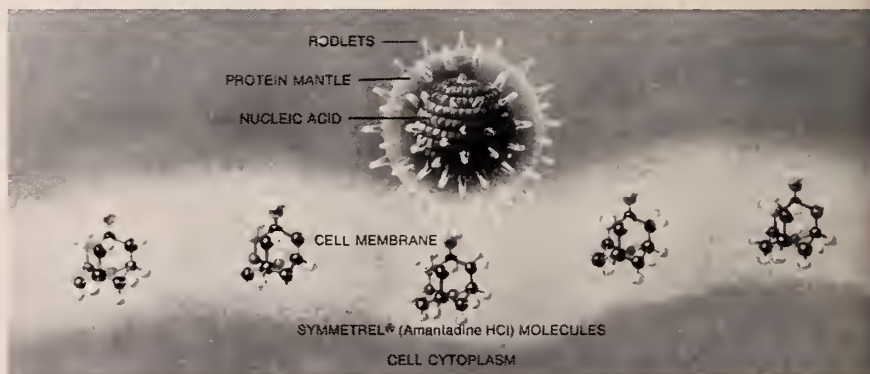
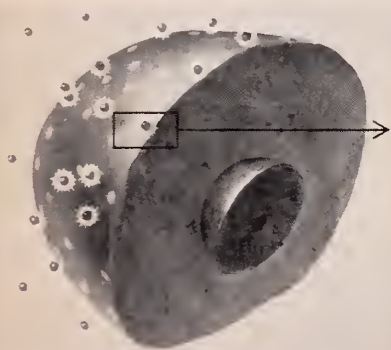


**2** The virus is incorporated into a vacuole within the cell. From this vacuole the virus nucleic acid passes into the cell cytoplasm



**3** The virus nucleic acid then directs the cell to produce both new virus nucleic acid and virus protein coat material which aggregate to form new virus particles. This process leads to the release of new virus particles and eventual destruction of the cell

### How Symmetrel® (Amantadine HCl) prevents virus invasion<sup>1</sup>



Our current knowledge leads us to believe "Symmetrel" acts as a molecular barrier to influenza virus penetration. Shown here in a greatly enlarged section, "Symmetrel"—located at the cellular membrane—effectively prevents (blocks) virus penetration. Thus, "Symmetrel" does not directly destroy the virus particle but acting as a virostat prevents the cycle of virus penetration, virus replication, and cell destruction that is characteristic of virus invasion of animal cells (tissue). *Artist's conception based on current scientific knowledge.*

1. "Mode of Action of the Antiviral Activity of Amantadine in Tissue Culture", Hoffmann, C. E.; Neumayer, E. M.; Haff, R. F.; and Goldsby, R. A., *Journal of Bacteriology* 90,623 (1965).

**Safety of Symmetrel® Confirmed.** When used as indicated, is generally well tolerated. No kidney, liver, bone marrow, or hematological disturbances have been observed.

## Prescribing Information

**Indications:** "Symmetrel" is indicated for the prevention (prophylaxis) of influenza A<sub>2</sub> in persons of all ages and groups. Early use is recommended, preferably before or as soon as possible after actual or suspected contact with individuals suffering from influenza A<sub>2</sub>. "Symmetrel" should especially be considered for high influenza-risk patient groups such as those suffering from chronic debilitating diseases and elderly persons.

**Contraindications:** Not indicated for the prevention of influenzal or respiratory illness other than influenza A<sub>2</sub> or for the treatment of established disease.

**Warnings:** Administration to patients with central nervous system disease, particularly geriatric patients with cerebral arteriosclerosis, and patients with a history of epilepsy or other "seizures," requires strict observation for possible untoward effects (see Adverse Reactions). Patients taking psychopharmacologic drugs, central nervous system stimulants, or alcoholic beverages should be observed for possible evidence of intolerance. Those patients who experience central nervous system effects or blurring of vision should be cautioned against driving or working in situations where alertness is important.

No teratogenic effects have been seen in reproductive studies in rats and rabbits. Studies in pregnant women have, however, not been done and use of this drug in women of childbearing age should be undertaken only after weighing the possible risks to the fetus against benefit to the pregnant patient. It should not be administered to nursing mothers since it is not known whether the drug is secreted in the milk.

**Precautions:** Ineffective against bacterial infections. Patients should be observed for idiosyncratic reactions as with all new drugs. Geriatric patients with pre-existing serious medical illnesses with mental or physical deterioration should be followed carefully medically while taking "Symmetrel." (See Adverse Reactions.)

**Adverse Reactions:** With higher than indicated doses manifestations of central nervous system effects such

as nervousness, insomnia, dizziness, lightheadedness, drunken feeling, slurred speech, ataxia, inability to concentrate and some psychic reactions including depression and feelings of detachment were seen. Occasional blurred vision was reported at higher doses. Some of the milder and less pronounced symptoms above have been reported in a small number of patients taking the recommended dosage of 200 mg per day. Those were mostly transient and disappeared with continued administration of the drug. Some geriatric patients developed paranoid or hallucinatory behavior and became unmanageable while taking 200 mg daily. Medically unselected seriously deteriorated geriatric patients showed poor clinical tolerance after several weeks of daily dosing with 200 mg per day. One elderly patient with a history of prior cerebrovascular accident developed visual hallucinations and grand-mal convulsions while on drug at 800 mg per day. Some cases of dry mouth, gastrointestinal upset and skin rash and rarely, tremors, anorexia, pollakiuria, and nocturia have been also reported.

**Safety:** When used as indicated, is generally well tolerated. No kidney, liver, bone marrow, or hematological disturbances have been observed.

**Dosage: Adults:** Two 100 mg capsules (or 4 teaspoonfuls of syrup) as a single daily dose or the daily dose may be divided into one capsule of 100 mg (or 2 teaspoonfuls of syrup) twice a day.

**Children:** 1 yr.—9 yrs. of age: Calculate total daily dose on the basis of 2 mg to 4 mg per pound of body weight per day (but not to exceed 150 mg per day). Daily dose, given as the syrup, should be given in 2 or 3 equal portions.

9 yrs.—12 yrs. of age: Total daily dose 200 mg given as one capsule of 100 mg (or 2 teaspoonfuls of syrup) twice a day.

**How Supplied: Capsules:** Bottles of 100. Each red, gelatin capsule contains 100 mg amantadine HCl.

**Syrup:** Bottles of 1 pint. Each 5 ml (1 teaspoonful) contains 50 mg amantadine HCl.



# Symmetrel®

(Amantadine HCl)

A molecular barrier to virus penetration



# arrest diarrhea

in • gastroenteritis • acute infections



## LOMOTIL<sup>®</sup>

Each tablet and each 5 cc. of liquid contains:

diphenoxylate hydrochloride . . . . . 2.5 mg.

(Warning: May be habit forming)

atropine sulfate . . . . . 0.025 mg.









**Effectiveness:** Lomotil possesses a unique degree of effectiveness in both acute and chronic diarrhea.

**Convenience:** Lomotil is supplied as small, easily carried, easily swallowed tablets and as a pleasant, fruit-flavored liquid.

**Versatility:** The therapeutic efficiency, safety and convenience of Lomotil may be used to advantage alone or as adjunctive therapy in diarrhea associated with:

- Ulcerative colitis
- Acute infections
- Irritable bowel
- Regional enteritis
- Drug therapy
- Food Poisoning
- Functional hypermotility
- Malabsorption syndrome
- Ileostomy
- Gastroenteritis and colitis

**Dosage:** For correct therapeutic effect—Rx correct therapeutic dosage. The recommended initial daily dosages, given in divided doses, until diarrhea is controlled, are:

Children: Age	Total Daily Lomotil Dosage	Lomotil Liquid Dosage (Each teaspoonful [4 cc.] contains 2 mg. of diphenoxylate HCl)
3-6 months	3 mg. 	½ tsp. 3 times daily
6-12 months	4 mg. 	½ tsp. 4 times daily
1-2 years . . .	5 mg. 	½ tsp. 5 times daily
2-5 years . . .	6 mg. 	1 tsp. 3 times daily
5-8 years . . .	8 mg. 	1 tsp. 4 times daily
8-12 years	10 mg. 	1 tsp. 5 times daily

**Adults:** 20 mg. (2 tsp. 5 times daily or 2 tablets 4 times daily) Based on 4 cc. per teaspoonful. Maintenance dosage may be as low as one-fourth the initial daily dose.

**Precautions:** Lomotil, brand of diphenoxylate hydrochloride with atropine sulfate, is a Federally exempt narcotic preparation of very low addictive potential. Recommended dosages should not be exceeded. Lomotil should be kept out of reach of children since accidental overdosage may cause severe respiratory depression. Lomotil should be used with caution in patients with impaired liver function and in patients taking addicting drugs or barbiturates. The subtherapeutic amount of atropine is added to discourage deliberate overdosage.

**Side Effects:** Side effects are relatively uncommon but among those reported are gastrointestinal irritation, sedation, dizziness, cutaneous manifestations, restlessness, insomnia, numbness of extremities, headache, blurring of vision, swelling of the gums, euphoria, depression and general malaise.

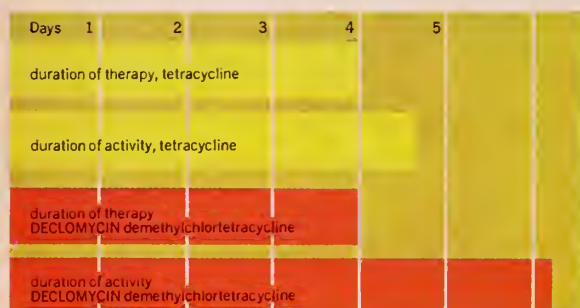
**SEARLE**

*Research in the Service of Medicine*

# why wonder about a drug when you know

## **DECLOMYCIN®** DEMETHYLCHLORTETRACYCLINE

### produces 1-2 "extra" days' activity



**1-2 "extra" days' activity**  
after the last dose to protect against relapse

one 300 mg tablet b.i.d.  
**OR**  
one 150 mg capsule q.i.d.

**Effective** in a wide range of everyday infections—respiratory, urinary tract and others—in the young and aged—the acutely or chronically ill—when the offending organisms are tetracycline-sensitive.

**Contraindication**—History of hypersensitivity to demethylchlortetracycline.

**Warning**—In renal impairment, usual doses may lead to excessive systemic accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort.

**Precautions and Side Effects**—Overgrowth of nonsusceptible organisms may occur. Constant observation is essen-

tial. If new infections appear, appropriate measures should be taken. Use of demethylchlortetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect occurs mostly during long-term use but has also been observed in short treatment courses. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment. Side reactions include glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis and dermatitis. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Anaphylactoid reactions have been reported.

**Average Adult Daily Dosage:** 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products.

**Capsules:** 150 mg; **Tablets:** film coated, 300 mg, 150 mg, and 75 mg of demethylchlortetracycline HCl.





For he's a jolly good fellow



But what does he think?



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WITH MEPROBAMATE (300 mg.)

**to help establish  
a new dietary pattern**

**Contraindications:** Dextro-amphetamine sulfate; in hyperexcitability and in agitated prepsychotic states. Previous allergic or idiosyncratic reactions to meprobamate.

**Precautions:** Use with caution in patients hypersensitive to sympathomimetic compounds, who have coronary or cardiovascular disease, or are severely hypertensive.

Dextro-amphetamine sulfate: Excessive use by unstable individuals may result in psychological dependence.

Meprobamate: Careful supervision of dose and amounts prescribed is advised, especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence on the drug. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of preexisting symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dosage and avoid operation of motor vehicles, machinery or other activity requiring alertness. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

**Side Effects:** Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness.

Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.

Meprobamate: Drowsiness may occur and can be associated with ataxia; the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculopapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.



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# Circulatory Capacity of the Coronary Arteries

CLARKE STOUT, M.D.

*The lack of a suitable method for relating the anatomic degree of coronary stenosis with the amount of myocardial scarring has made it difficult to assess the influence of other factor in the pathogenesis of ischemic heart disease. Such a method is proposed.*

SIGNIFICANT atherosclerotic narrowing of the extramural coronary arteries is in general associated with scarring of the myocardium. In any series of such cases, however, discrepancies are nearly always found between the degree of coronary stenosis and the extent of myocardial scarring and in particular, between the age and location of coronary artery thromboses and the age and location of myocardial infarctions. Consideration of these discrepancies would indicate either an inability of the postmortem examination to predict coronary blood flow or

would permit the assumption that other factors (neural or hormonal influences) are as important as structural changes in the pathogenesis of myocardial infarction. Numerous methods have been developed for the postmortem assessment of the coronary circulation. The injection and dissection technique of Schlesinger<sup>1</sup> is superior in that the development of collateral vessels can be visualized without the loss of tissue for further anatomic study. Nevertheless, neither this nor other techniques can be interpreted precisely in terms of blood flow. Any evaluation of blood flow must also consider the arterioles and smaller arteries of the intramural coronary circulation. Although spasm of these vessels cannot be ruled in or out after death, sclerosis is often seen and could be significant. A method has therefore been developed for reducing the extramural coronary circulation, the intramural coronary circulation and the degree of myocardial scarring to numerical form, in order that they may be correlated and their respective importance determined.

## METHOD

The right, left and left circumflex coronary arteries are dissected intact from the

Supported by Grants HE 06286-06 and HE 08725 from the National Heart Institute, National Institutes of Health, United States Public Health Service.



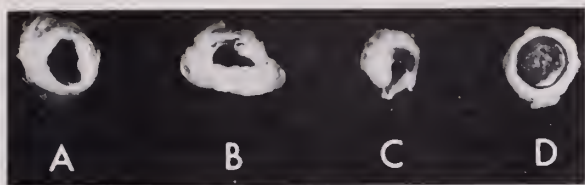


Figure 1. Four segments of extramural coronary arteries are pictured. The lumen of segment A is 50 per cent occluded; calcification is visible in the plaque at 11 o'clock and intimal ulceration at six o'clock. The lumen of segment B is 60 per cent occluded; a fracture in the intima is seen at 12 o'clock. The lumen of segment C is 70 per cent occluded; a large hemorrhage is present within the plaque at one o'clock. The lumen of segment D is 100 per cent occluded by a recent thrombus.

heart including branches with a luminal diameter greater than one mm. and including the parent trunks until a diameter of one mm. is reached. These vessels are then fixed in formalin and sectioned transversely into two mm. segments with a sharp scalpel. Each segment is placed in sequence on the stage of a dissecting microscope and the per cent of lumen occlusion estimated to the nearest ten per cent. Both faces of each segment are estimated and the average of the two readings recorded. At the same time atherosclerotic complications such as calcification, hemorrhage within plaques or intimal ulceration are noted for each segment (figure 1). The percentages of occlusion are then added and divided by the total number of segments to derive an average degree of occlusion for

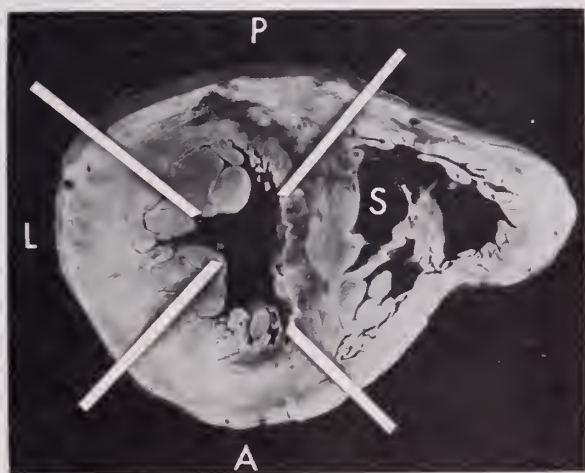


Figure 2. A coronal slice of the heart is shown with the left ventricle divided into anterior (A), lateral (L), posterior (P) and septal (S) regions. A fresh infarction is present involving portions of the anterior, posterior and septal regions of the left ventricle and the posterior wall of the right ventricle.

the right coronary artery, the left anterior descending coronary artery (LAD) and the circumflex branch of the left coronary artery and their respective branches.

A slice of both ventricles is then taken at the level of the papillary muscles and prepared in its entirety for microscopic examination. All intramural coronary arteries and arterioles contained in this slice are graded according to the method of Ratcliffe,<sup>2</sup> the total averaged and a score obtained for the degree of occlusion of the intramural circulation.

The heart is then sectioned coronally at intervals of three to five mm. from the apex to the atrioventricular valves. The left ventricle is divided into four regions following the landmarks described by Edwards<sup>3</sup> in which the anterior region extends from the anterior margin of the septum to the center of the anterior papillary muscle, the lateral region extends from that point to the lateral margin of the posterior papillary muscle, the posterior region extends from that point to the posterior margin of the septum and the septal region remains. The area of infarcted muscle is then estimated using a transparent grid and compared with the total area of myocardium in each coronal slice for the four regions of the left ventricle. The right ventricle is handled in a similar manner being divided simply into posterior and anterior portions (figure 2).

## RESULTS

Four hearts have been studied to date. The scores are shown in table I. In each individual heart the degree of occlusion of the extramural system appears to predict the extent of scarring in the appropriate region of myocardium. The average total scores for myocardial scarring and extramural coronary occlusion are compared in table II. The high value for myocardial scarring in N-55 may be misleading since this patient

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*Clarke Stout, Jr., M.D., a graduate of the University of Maryland School of Medicine, is presently Assistant Professor of Medicine at the University of Oklahoma School of Medicine. He is a Fellow of the American Heart Association.*

Table I

The area of infarction in the various regions of the left ventricle versus the degree of occlusion of the respective nutrient extramural coronary artery.

		Regions, Left Ventricle					
		Septum	Anterior Extramural Coronary Arteries			Posterior	
Patient		LAD	Circumflex		Right		
N-46	% Infarction	5	27	25		24	
	% Occlusion	60	89	81			
N-55	% Infarction	33	13	4		53	
	% Occlusion	54	74	49			
N-85	% Infarction	0	1	10		0	
	% Occlusion	56	absent	71			
N-95	% Infarction	1	16	20		25	
	% Occlusion	67	80	86			

Table II

The average total area of infarction versus the average total degree of extramural coronary artery lumen occlusion.

Patient	Percentage of Left Ventricle Infarcted	Per cent of lumen occlusion of Extramural Coronary Arts.
N-46	20	77
N-55	26	59
N-85	6	64
N-95	16	77

had a large recent infarction which would have contracted considerably with healing. Analysis of these data obviously must be delayed until further cases have accumulated and the scores for intramural coronary occlusion completed.

SUMMARY

A method has been described for the anatomic determination of the circulatory capacity of the coronary arteries. The method also permits quantitation of myocardial infarctions and can be accomplished without the loss of tissue for further study, especial-

ly the scoring of the complications of atherosclerosis which so often lead to occlusion of the extramural coronary arteries. This information will then be correlated with the variables monitored during life in the Neurocardiology Study, particularly indications of autonomic imbalance, emotional or social maladjustment. □

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## Customary Fees Asked For Military Dependents

The Oklahoma State Medical Association's Governmental Relations Committee is endeavoring to change the method of compensation used by the Dependents' Medical Care Program for physicians services from the present system of a fixed fee schedule to one embodying the concept of customary and reasonable fees.

At a committee meeting held January 29th, the OSMA group authorized a delegation to negotiate with government officials in Denver on February 6th concerning the requested change in payment policy.

OSMA representatives reached a general agreement with Dependents' Medical Care officials to convert the payment system to one of customary and reasonable fees. In doing so, it will be necessary for the association to provide a claims review service in cooperation with the fiscal intermediary to resolve unusual claims (a system similar to that employed in the Medicare and welfare department programs for government beneficiaries).

Representing the association was B. C. Chatham, M.D., Chairman of the OSMA Council on Socio-Economic Activities. Wearing two hats were Scott Hendren, M.D., Chairman of the OSMA Governmental Relations Committee, and OSMA President-Elect Maxwell A. Johnson, M.D., both of whom are also members of the Blue Shield Board of Trustees. The fiscal intermediary for paying Dependents' Medical Care physicians claims, Oklahoma Blue Shield, was represented by two staff members.

The OSMA Board of Trustees instructed the association's Governmental Relations Committee to strive for customary and reasonable fees by passing the following motion on October 23rd, 1966:

"The Board of Trustees of the Oklahoma State Medical Association favors converting the compensation system of the Dependents' Medical

Care Program from the present uniform fee schedule to one of paying customary and reasonable charges; and authorizes the association's Governmental Relations Committee to negotiate an equitable arrangement with the Office of Dependents' Medical Care and the fiscal intermediary, Oklahoma Blue Shield, such arrangement to incorporate the utilization of the OSMA Medical Insurance Review Committees."

### Other Actions

OSMA's Governmental Relations Committee represents the association in all matters involving government-operated health care programs. At the January 29th meeting, other reports and activities included:

- Only 54 per cent of physicians' claims for Medicare services were billed directly to the patient during January (this includes only those patients on Social Security who are not simultaneously drawing Old Age Assistance benefits; the latter category requires the taking of an assignment before the patient is entitled to have the Medicare coinsurance and deductible paid by the state welfare department).

- Aetna, the carrier for physicians' payments under Medicare, is running about two weeks behind in claims processing, a condition which is found throughout the country to varying degree.

- Only five cases involving physicians' Medicare charges have been referred by Aetna to medical insurance review committees since July. However, about 12-15 per cent of all claims received require follow-up inquiries as to charges, but most of these are resolved voluntarily between Aetna and the physicians.

- Title XIX of Medicare, which is administered for medical indigents of all ages by the welfare department, will spend about \$58 to \$59 million this year for all types of health services. □

## "Malpractice University" Planned for Convention

"Malpractice University" will be a highlight of the Annual Meeting scheduled for Tulsa's Civic Center, May 11th-14th. The "University" will be a workshop session to acquaint physicians with the legal pitfalls that lead to malpractice suits.

The session on malpractice will take place in the afternoon of Thursday, May 11th, and will consist of three segments. The first part will be a step by step rundown of the laws of battery, negligence, and respondeat superior (acts of others) as they affect the medical profession and as they are outlined in Pfizer Laboratories' programmed textbook "Physician's Liability."

The second part of the program tentatively will be a mock malpractice trial to be planned and conducted by two prominent Oklahoma attorneys. It will be as realistic as possible in order to give all physicians in attendance a close-up view of how the defense and claimant attorneys work in the courtroom.

A concise summary of what the participants should have learned from the text and trial will conclude the program. The summary will be delivered by one of the attorneys that prepared the Pfizer text.

"In many instances, malpractice suits could be avoided," Maxwell A. Johnson, M.D., Convention Chairman, said, "if the physician was aware of the legal aspects of medicine. This program is designed to stimulate that awareness by presenting the information in three forms: Textbook, illustration and lecture.

"Any and every physician in Oklahoma is susceptible to a malpractice claim," Johnson stated, "and it is OSMA's desire and duty to eliminate



those instances brought about by lack of 'legal' information."

Mr. Don Blair, OSMA Executive Secretary, said, "This program will be an excellent addition to our malpractice prevention project with INA, the new liability insurance carrier approved by the House of Delegates." □

## Scientific and Business Sessions Take Shape

The scientific and specialty sections of the annual meeting are beginning to take their final form according to Mr. Jack Spears, Executive Secretary of the Tulsa County Medical Society, while planning for the business and general interest sessions is now underway.

Doctor Charles L. Hudson, AMA President, will address the closing session of the House of Delegates on Saturday, May 13th.

The scientific and specialty programs will start Thursday afternoon with the sections on Radiology and Pediatrics. Surgery and Psychiatry will meet Friday morning, with Medicine-Cardiology and Obstetrics and Gynecology taking the afternoon sections.

Saturday morning will be devoted to Orthopedics, Eye, Ear, Nose and Throat and Dermatology, with Urology and Anesthesiology in the afternoon.

Mr. Spears said that all sections have contacted their speakers and received confirmations. "The only thing remaining is for a few of the sections to decide in what order their program will be presented," he added.

A special General Session is planned for Thursday afternoon. It will be a "Malpractice University" to acquaint all physicians with the legal pitfalls that lead to malpractice claims. The session will actually be a workshop for malpractice claim prevention.

The OSMA Board of Trustees will meet Thursday afternoon and the House of Delegates will convene for its opening session Friday morning.

Reference committees will be in session Friday afternoon to report back to the House Saturday morning for the closing session and election of officers.

The President's Inaugural Ball will be the last official function of the convention. It is planned for the Crystal Ballroom of the Mayo Hotel on Saturday evening. □

## Doctor Wangansteen Guest of History of Medicine

The History of Medicine Section of the University of Oklahoma Medical Center will be honored by a visit from Doctor Owen H. Wangansteen, Professor and Chairman of the Department of Surgery, University of Minnesota, on March 31st, 1967.

Known throughout the world for his abilities and outstanding new advances in general surgery, his contributions in the field of medical history have also been noteworthy. He has not only spoken and written inspiringly on the history of surgery, but he has also been the stimulating force behind an admirable collection of books and a group of persons interested in medical history at Minneapolis. Doctor Wangansteen's visit here is an expression of his conviction that study of the history of the medical sciences plays an important role alongside research in the laboratories and clinics.

On Friday, March 31st, at 4:00 p.m., at the Main Auditorium of the Medical Building, Dr. Wangansteen will give an open talk entitled "Old and New from the Academic Surgical Arena." This will be followed at 6:30 p.m. by a dinner meeting at the Faculty House, 600 N.W. 14th Street, at which his subject will be "Uses of Medical History with Special Reference to the Medical Curriculum and Interdisciplinary Research." All physicians, students, and wives will be welcome.

For further information and tickets to the dinner write Doctor R. Palmer Howard, History of Medicine Section, University of Oklahoma Medical Center, 816 N.E. 15th Street, or telephone CE 5-9449. □

## "Banjo King" To Entertain During Annual Meeting



Eddie Peabody, "The Banjo King," will be the featured entertainment at the President's Inaugural Ball during the annual meeting in Tulsa in May.

Peabody has been picking the banjo since he bought his first one in 1918. At that time he was a quartermaster aboard the Submarine D3. He commented, "I bought a banjo in New London because I thought the boys on the boat would like it."

During World War II he played over 6,000 shows for the men of the Pacific Theater of operations from Guadalcanal to the Philippines.

After the war he dropped from sight but was "re-discovered" a few years later and has appeared on many television shows, including the one from Mickie Finn's in San Diego where he is the star attraction.

Other entertainment features planned for the annual meeting will include a "Wine and Cheese Tasting Party" Thursday evening. Wines and exotic cheeses from around the world will be offered to tease the palate.

A Gaslight Party is scheduled for the Crystal Ballroom on Friday night, complete with Dixieland music, go-go girls, checkered tablecloths, dark beer and a special light show.

The light show has been described as being similar to "taking a trip" on LSD<sub>25</sub>, complete with seeing people in stopmotion. □



## Health Economic Survey Findings Reported

In May, 1965, the House of Delegates of the Oklahoma State Medical Association initiated a major Health Economic Survey in Oklahoma. Shortly thereafter, the effort was joined by the Oklahoma Hospital Association and the Oklahoma Blue Cross-Blue Shield Plans, forming a triad of sponsoring organizations.

As a quasi-governmental activity, Governor Henry Bellmon appointed a Task Force to manage the project. Included are leaders of industry, agriculture, labor, osteopathy, hospital administration, medicine, and the nonprofit prepayment health care industry.

Representing the OSMA on the Task Force are: B. C. Chatham, M.D., Chairman, Hayden H. Donahue, M.D., and Thomas C. Points, M.D.

The study began with a recognition that Oklahoma's health economic system was due intensive study, analysis and corrective action; the sectors of responsibility for voluntary prepayment plans and government health care programs needed to be defined for purposes of improving the methods of financing health care; new prepayment programs, or innovations, needed to be found in order to protect the private sector from unwarranted invasion by government; a responsibility was owed to the public by the health care industry to bring health economic programs abreast of today's complex social and economic needs; and, more needed to be learned about the financial capability of Oklahoma people and their attitudes toward the financial aspects of health care planning.

To provide a base from which intelligent decisions could be reached, the Task Force commissioned an investigator to conduct a statewide survey designed to develop the following information:

1. Survey the extent of prepaid protection for the entire Oklahoma population, based on income brackets within county boundaries.
2. Survey the quality of prepayment protection for the entire popu-

lation, based on income brackets within county boundaries.

3. Conduct a public opinion survey.

4. Conduct a professional opinion survey.

### Findings

Based upon the review of existing health economic data applicable to Oklahoma, as well as an in-depth study of 1,500 case histories of persons hospitalized throughout the state in 1965, the following are highlights of the survey findings:

#### *Hospitalization Survey*

—Average stay for all patients was 6.3 days, a figure below the national average (7.6) but approximately the same as prevails in this region (6.2).

—Length of stay increases with the age of patient, ranging from 3.1 days for under age 15 to 9.4 days for over age 65.

—Despite national figures to the contrary, the Oklahoma survey did not indicate that the possession of health insurance affected the length of stay in the hospital (6.2 days for the uninsured and 6.3 days for the insured).

—Blue Cross patients tend to stay in the hospital longer than those with commercial insurance (6.8 days compared to 6.4 days).

—Patients with group policies have shorter stays than those with individual policies.

—The survey revealed no conclusive evidence of over-utilization by the insured patients.

—The average cost of a period of hospitalization is \$252.44, of which 55.7 per cent is for ancillary services.

—The average cost generally increases with the age of the patient, just as the length of stay generally increases.

—The average charge per patient day of \$39.87 varies inversely to the length of stay, i.e., the longer the stay, the lower the per diem.

—Insured patients have hospital bills 12.8 per cent higher than those uninsured, but no significant inference can be made from the data obtained.

—On the average, 48.9 per cent of hospital charges are paid by insurance and 25.8 per cent by the patient, with the balance either unpaid (14.3) or paid by government (11.3).

—Based upon the state survey, 57.1 per cent of Oklahoma's population has hospital insurance (Social Security estimates are higher—62 to 70 per cent).

—Twenty-one and nine-tenths per cent of Oklahomans have Blue Cross, while 34.0 per cent have commercial health insurance of some type.

—Oklahoma's level of hospital insurance is below the national average, but compares favorably to the region.

—Eighty-six per cent of the insured patient's hospital bill is paid by Blue Cross while 82.1 per cent of the insured's bill is paid when commercial health insurance is involved.

—There is a marked difference between the quality of *individual* Blue Cross policies as compared to *individual* insurance policies (Blue Cross pays 82 per cent of the average bill, while commercial insurance companies, in the aggregate, pay only 56 per cent).

—Commercial insurance companies retain more premium than does Blue Cross, and the Oklahoma Blue Cross Plan retains less than Blue Cross nationally.

#### *Patient Survey*

—Families with higher incomes have higher hospital admission rates but shorter lengths of stay.

—Except in the under \$2,000 income bracket, insured patients stay in the hospital longer than the uninsured in all other family income groups.

—Hospital charges to insured patients are higher at every income class than for uninsured patients.

—The family income classes of the patients surveyed generally depict the income classes of the Oklahoma population, i.e., almost 39 per cent of the families surveyed had annual incomes of less than \$4,000.

—Insurance coverage is directly related to income classes, i.e., only 38.1 per cent of patients with incomes under \$2,000 have insurance,

(Continued on Page 103)

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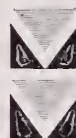
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## FINDINGS REPORTED

(Continued from Page 101)

while 86.8 per cent of those in the \$7,000-9,999 bracket have coverage.

—Generally speaking, larger families are more inclined to purchase health insurance, but the greatest determinant is family income.

—There are tremendous variations from district to district throughout the state in terms of average income and the amount and quality of health insurance protection held by the populace.

—The quality of the health insurance held varies directly with the income of the purchaser.

### *Physician Survey*

—The average physician-charge for an illness serious enough to require hospitalization is \$120.54, of which \$104.96 is incurred during the actual period of hospitalization.

—The average medical cost, combined with the average hospital cost, amounts to a total of \$372.98 per illness.

—Physicians' charges to insured patients are higher than to the uninsured (\$148.42 for the average insured patient, as compared to \$89.87 for the uninsured). The investigator implies price discrimination, but fewer lower income patients have insurance, and physician fees are shown to be reduced as family income decreases.

—All forms of health insurance cover 41.1 per cent of medical costs during a complete spell of illness, while patients pay 39.3 per cent directly to the physicians, government pays four per cent, and 15.6 per cent remains unpaid.

—The survey revealed that 56.6 per cent of Oklahomans are insured against the cost of physicians services, while 43.4 per cent are not. However, the application of national data to Oklahoma indicates that the insured figure may actually be higher (59 to 66 per cent).

—Many physician services are not covered by health insurance, particularly outpatient care.

—Age does not seem to be a factor in the percentage of persons having physician insurance, except a much

smaller percentage of the over-65 group is insured.

—Family income is directly related to medical insurance coverage.

### *Public Opinion of Health Insurance*

Patient respondents answered certain questions concerning health insurance, as follows:

- |  |     |       |
|--|-----|-------|
| —Is cost reasonable for benefits offered?        | Yes | 72.2% |
| —Should more services be covered?                | Yes | 62.8% |
| —Should all costs be covered?                    | Yes | 52.0% |
| —Would an increase in premium be acceptable?     | No  | 57.1% |
| —Should insurance pay more for services covered? | Yes | 64.9% |

### *Task Force Actions*

The Health Economic Survey Task Force met on January 19th to review the survey findings and to develop general plans to carry out corrective actions where indicated.

Plans are underway to develop specific recommendations in the following areas:

- A subcommittee effort to improve medical practice efficiency for the purposes of curbing rising costs and relieving the shortages of health personnel.

- OSMA support for efforts to improve the supply and distribution of health sciences personnel.

- A new Blue Cross-Blue Shield Plan to provide more comprehensive benefits and to feature the payment of customary and reasonable fees for physicians' services.

- A continuing and broadly-based health economic education program to encourage massive enrollment in voluntary prepayment health insurance programs as a more economical alternative to tax-supported programs for the general public.

All recommendations formulated by the Task Force as corrective measures to bolster the areas of weakness revealed by the survey will be processed through the policy-making bodies of the sponsoring organizations before implementation. □

## Legislative Digest

The following bills of interest to the medical community have been introduced into the Oklahoma Legislature for consideration. The italicized portion at the end of each bill digest is the OSMA policy position or information of interest to physicians.

### *Senate Bills*

SB 5: Murphy: A law permitting state agencies to hire non-citizens of the United States. This will affect the employment of foreign physicians, but will not override present medical licensing laws.

*OSMA: Endorsed.*

SB 20: Nichols: An act creating a Water Quality Control Commission in the State Health Department and authorizing proceedings before such commission for water pollution.

*OSMA: Endorsed and will support this concept through the news media.*

SB 21: Berrong and Gee: An act relating to establishment of uniform health and accident insurance for state employees and officers and creating a board to supervise the program.

*OSMA: The Legislative Committee favors a health insurance program for public employees, but will urge this bill be amended to provide the employee with a free choice of optional health care plans.*

SB 27: Martin: An act empowering the State Board of Health to regulate, police and plan air quality management; providing for control of air pollution.

*OSMA: No policy position.*

SB 28: Smith: Providing for chemical blood tests to determine whether a motor vehicle operator is driving under the influence of alcohol. Such test to be administered by a physician. Similar to HB 564.

*OSMA: Will support this bill if the test is administered by a "physician, qualified technician, or registered nurse."* Location: Passed Senate and is in House.

SB 32: Birdsong: A law amending the uniform narcotic drug act and authorizing the Oklahoma Drug Commission to classify products as dangerous drugs.



OSMA: *Endorsed.*

SB 48: Horn: An act authorizing county commissioners to contract for ambulance services.

OSMA: *No action taken.* Location: Passed Senate and is in House.

SB 50: Murphy: An act prohibiting the exclusion of Optometrists from medical and hospital service plans and public assistance programs.

OSMA: *Opposed.* An identical bill was vetoed last session by Governor Bellmon. Location: Passed Senate and is in House.

SB 66: Grantham (S) & Conaghan, Peterson (H): Amending the Medical Practice Act providing immunity for the physician treating a minor under emergency conditions without the consent of the parent or guardian.

OSMA: *Endorsed.* Location: Passed Senate and is in House.

SB 95: Young, Birdsong, Garrett & others: Providing for discovery of liability insurance amount and provisions by claimant or his attorney in a civil damage case.

OSMA: *Opposed.* The passage of this bill would probably increase the amounts sought in professional liability suits.

SB 116: Garrett: Prohibiting the practitioner of the healing arts to advertise, including Chiropractors.

OSMA: *Endorsed and will actively support this bill.*

SB 126: Baldwin & Miller: A \$75,000 appropriation to be expended by the state medical examiners and board of unexplained deaths.

OSMA: *Endorsed.*

#### House Bills

HB 551: Sparkman (H) Graves (S): An act fixing minimum requirements of physical facilities for nursing rest or specialized homes.

OSMA: *Endorsed.*

HB 552: Sparkman (H) Romang (S): Authorizing the State Health Department to establish Family Planning Centers and to establish fees for applicants able to pay. Location: Passed the House and is in Senate.

HB 553: Sparkman (H) Graves (S): Amending the Public Health Code to

provide for cooperative departments of health among counties, districts, or cities and towns; providing for the collection of fees and expanding the services to be offered by same to include nursing care, physical and occupational therapy, "... and other appropriate services to patients in their homes."

OSMA: *Opposed to House Bills 552 & 553 as written.* The Legislative Committee favors the "Family Planning Center" concept, but opposes the charging and collection of fees. The centers were originally presented as aids to the indigent, the person that could not afford to pay for such service.

HB 599: Cox, Brown (H) & Garrett (S): Authorizing hospitals and Department of Mental Health to purchase buses and fire-fighting equipment.

OSMA: *Endorsed.*

HB 619: Spearman: Requiring identification cards be issued to agents licensed to sell life and health and accident insurance.

OSMA: *Endorsed.*



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## The Image of Pharmacy: Professional vs. Discount

The Oklahoma Pharmaceutical Association has issued a statement reiterating its opposition to discount prescription shops and prescription departments in grocery stores, or any other retail outlet that tends to lower the professional image of the practice of Pharmacy. In the association's published Code of Ethics, the advertising of prices of prescriptions or prescription drugs is forbidden.

Spokesmen for the pharmacy group's Interprofessional Relations Committee have made it clear that if either a medical or pharmacy practitioner wishes to give his services away, that is his right and privilege. However, if either of the practitioners advertises his reduced fee schedule to the public, this is an unethical practice, for it reflects upon all other practitioners of his profession, and indirectly, or directly, implies that their charges are excessive or unfair.

When a prescription is written for a drug, the pharmacists believe it is no longer a commodity that is available on a price basis; rather, it becomes a specific for a very special person for a particular disease or condition. "The pharmacist who receives this prescription should be chosen for his professional knowledge and ability," the statement said, "and his training or experience is required in the process of selection, identification, storage, and dispensing of a drug or combination of drugs."

Pointing out that the drug history of the patient is important to the individual and to the physician, the pharmacy committee observed that a knowledge of drug reactions and interactions must be utilized before the filled prescription leaves the pharmacist's hands. "This is an essential part of the professional service that a pharmacist must render. There is no second chance."

The statement continued: "The physician-patient-pharmacist relationship is a very vital one for the treatment of the health and well-being of

the patient. The traditional professional responsibility of the pharmacist includes in addition, the knowledge that the patient understands the doctor's directions for dosage, application, or administration of the prescription.

"The discounter must have volume. His practice from an economic viewpoint, becomes an assembly line of mass production, which virtually eliminates the pharmacist-patient relationship. Fortunately, for the medical profession, physicians have not accepted employment by non-professionals who then prostitute ethical standards for high profits."

As an example of the present dilemma of pharmacy, the pharmacists developed an analogy to medical practice: "Suppose that corporation 'X' employed physician 'Y' with a promise to give him twice the income he earned the year before. They then manipulate his fee schedule to create the illusion that other physicians are overcharging, and his practice, which has been good before, now triples. His income doubles, his employers do quite well, his ethical colleagues lose practice, and his patients suffer from inadequate and improper attention.

"Economically, a business venture to remain solvent, must earn a profit. In today's market place, many gimmicks are being used to induce traffic. Discounting is only one of these gimmicks. In some instances, ridiculous prices on a few items are used as bait, while other prices are elevated to off-set this loss. This practice of 'loss-leaders' is also opposed by the Oklahoma Pharmaceutical Association."

The pharmaceutical association believes that when a pharmacist's services are advertised at "discount" prices, it discounts the importance of the professional services required. "Each practitioner should be permitted to establish the fees for his services. He should not, however, be allowed to advertise the discount image of the profession to the public, any more than a physician should advertise office calls at cost."

The Oklahoma Pharmaceutical As-

sociation has solicited the help of the medical profession in eradicating the problem of discount pharmacies. Physicians are encouraged to refer patients to ethical pharmacies "where pharmacists value the patient's best interests above all other considerations . . . You cannot afford to let the ethical professional pharmacist be destroyed, or replaced by a merchandising technician in this age of medicare, kiddie-care, and total health care." □

## Medical Assistants To Meet in March

The seventh annual seminar for the Oklahoma Medical Assistants will be held Saturday and Sunday, March 18th-19th, in the Student Union Building of Oklahoma State University, Stillwater.

The objective of the seminar is to help the medical assistant provide better service for her physician-employer and his patients.

The meeting will feature lectures on personal relations, administrative procedures and basic clinical techniques. Each will be given by a speaker who has achieved prominence in his respective specialty.

Doctor Lynn L. Gee, Chairman of the Bacteriology Department of OSU will address the opening session on Saturday. His topic will be "Immunity to Disease."

"Title XIX of Medicare Legislation (Medicare Forms, etc.)" will be presented by Lloyd E. Rader, Director of the Oklahoma Department of Public Welfare.

Mr. Dick Roberts, staff member of the Dale Carnegie Institute, will discuss personal relations in his talk, "The Care and Feeding of Patients, Fellow Employees, and Bosses."

The Graduation Luncheon on Sunday will present Doctor James L. Dennis, Director and Dean of the Oklahoma University School of Medicine, speaking on current medical education plans and programs.

The Business Extension Service of OSU is sponsoring the program and wishes to encourage every doctor to discuss the program with his medical assistants. □



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## Dental Lectureship Established

Dentists on the faculty of the University of Oklahoma Medical Center have established a fund for an annual lecture by a distinguished guest speaker, according to Doctor Robert G. Hirschi, chairman of the Dentistry and Oral Surgery Section.

It will be known as the Francis J. Reichmann Lectureship in honor of "the father of dental education in Oklahoma," Doctor James L. Dennis, dean and director, said.

Doctor Reichmann, Oklahoma City, was chairman of the dental service at the Medical Center for 32 years and is credited by his colleagues with "keeping alive a spark of dental education in this state over the years."

"With the establishment of a dental school at the Medical Center a reality in the very near future, it is appropriate that this dentistry and oral surgery lectureship be established," Doctor Hirschi said.

Although Oklahoma has no dental school, the Medical Center has offered a program for the advanced training of graduate dentists since 1923.

Doctor Reichmann, a 1923 graduate of the University of Michigan Dental School, came to Oklahoma City at that time at the request of the dean, Doctor Leroy Long, and Oklahoma City dentists who wanted to establish a dental service at the University Hospitals. He was the first dental intern and then became chairman of the service.

The OU Medical Center is the only place in the state where graduate dentists can take an internship or residency. Besides a residency in oral surgery, there is a general practice internship which emphasizes the correction of dental defects in children. Also, basic science courses are offered through the Graduate College.

The program has been conducted with the cooperation of Oklahoma City dentists who contribute a part of their time to teaching.

After graduating from a school of dentistry, dentists must have two



## Fifty-Year Pin Presented To Fred S. Watson, M.D.

Fred S. Watson, M.D., Okmulgee physician and surgeon, was honored recently by the Okmulgee and Okfuskee County Medical Societies and presented a pin commemorating 50 years in the practice of medicine. Doctor A. L. Buell, president of the Okmulgee County Medical Society, made the presentation.

Doctor Watson was born in Amity, Arkansas in 1892, and was graduated from the University of Arkansas School of Medicine in 1915. His first medical practice was in southwestern Arkansas, where he visited patients on horseback and dispensed medicine via "saddle-bags." He served in the

army during World War I, and was discharged from active duty in 1920.

In 1921 Doctor Watson moved to Okmulgee, where he practiced general medicine for several years. He then closed his office for a time and spent two years at the University of Pennsylvania Medical School in a surgical residency, returning to Okmulgee in 1929 to practice surgery. Doctor Watson was admitted as a Fellow of the American College of Surgeons in 1932, and continues in active practice in Okmulgee.

David Watson, M.D., Muskogee pediatrician and a son of Doctor Fred Watson, attended the ceremonies honoring his father. □

years of in-hospital training and one year of basic science work before they are eligible for national board certification and a state license to practice the specialty of oral surgery.

Doctor Reichmann in 1963 was honored for 40 years of service to the Medical Center and now holds the rank of emeritus clinical professor, but continues to serve on the staff.

He is past chairman of the Dental School Committee of the Oklahoma State Dental Association. A veteran of both world wars, he is a retired brigadier general of the army. □

## "Always on Tuesday"

### OSMA-OU Medical Television Programs

KOED-TV  
Channel 11  
Tulsa

KETA-TV  
Channel 13  
Okla. City

7 a.m. and 9:30 p.m.

**EVERY TUESDAY**

## Gerhard A. Brecher, M.D., Joins Medical School Faculty

An eminent heart physiologist, Doctor Gerhard A. Brecher, has joined the faculty of the University of Oklahoma Medical Center, Doctor James L. Dennis, dean and director, announced.

He accepted appointment as "distinguished professor" of physiology, becoming the second faculty member given this rank reserved for senior scientists of international repute. The first was Doctor Paul Kimmelsiel, 66, pathologist, appointed last fall.

Doctor Brecher, 57, came to Oklahoma from the Emory University School of Medicine, Atlanta, where he had served successively since 1957 as chairman of the Department of Physiology and chief of the Clinical Physiology section in the Department of Internal Medicine.

Although best known for his cardiovascular work, Doctor Brecher also has a keen interest in the physiology of the eye and has been a medical research consultant in ophthalmology to the General Electric Company, Cleveland, since 1954.

German born, he received the Ph.D. at the University of Hamburg in 1932 and the M.D. at the University of Kiel in 1937, and took his medical residency training in this country. He holds a master of arts degree from Duke University, Durham, North Carolina.

At the Medical Center, he will continue his research on physiology of the veins, of the filling and emptying of the heart, the heart-lung machine, and on eye physiology. He will be involved in the teaching of both medical students and graduate students in the medical sciences, said Doctor Eugene D. Jacobson, physiology chairman.

Before going to Emory, Doctor Brecher was a professor in physiology and ophthalmology and director of the Institute for Research in Vision at Ohio State University College of Medicine, Columbus. He taught earlier at Western Reserve University School of Medicine, Cleveland.

He was for four years a member of the Committee for Research Training Grants in Ophthalmology of the National Institute for Neurological Diseases and Blindness. □

## DEATHS

GEORGE L. BORECKY, M.D.  
1897-1967

George L. Borecky, M.D., Oklahoma City physician, died January 30th, 1967, in Oklahoma City.

Born in Wilber, Nebraska in 1897, Doctor Borecky moved to Oklahoma City in 1910. He graduated from the University of Oklahoma School of Medicine in 1923, where he later became a member of the faculty. For many years he was special assistant for the Oklahoma County Social Service Department. He was a veteran of both World War I and World War II.

JOSEPH E. BROOKSHIRE, M.D.  
1873-1967

One of Oklahoma's pioneer physicians, Joseph E. Brookshire, M.D., died in Tulsa January 19th, 1967. He was a native of Pekin, North

Carolina. Following his graduation from the University Medical College of Kansas City in 1909, he practiced in Nowata before moving to Tulsa in 1923. He practiced 53 years before his retirement in 1960.

The Oklahoma State Medical Association honored Doctor Brookshire in 1957 when they presented him with a Fifty-Year Pin for his years of service to his profession and humanity.

PHILIP M. McNEILL, M.D.  
1898-1967

A long-time Oklahoma City physician, Philip M. McNeill, M.D., died January 27th, 1967. He graduated from the University of Oklahoma School of Medicine in 1923, where he later became Professor of Medicine. Doctor McNeill was a Fellow of the American College of Physicians. □

## BOOK REVIEWS

**OCULAR THERAPEUTICS AND PHARMACOLOGY:** By Phillip P. Ellis, M.D., Associate Professor and Head, Division of Ophthalmology, Department of Surgery, University of Colorado Medical Center, Denver, Colorado, and Donn L. Smith, Ph.D., M.D., Professor, Department of Pharmacology, and Dean, University of Louisville, School of Medicine, Louisville, Kentucky. Second Edition. Leahterette, 224 pp., Saint Louis: The C. V. Mosby Company, 1966, \$9.75.

This hand book is divided into two large sections. Section I is concerned with basic consideration of drug formulation for eye use, especially the problems associated with maintaining proper PH and long stability of the product. This section also considers the basic principles of steroid and antibiotic therapy, as well as giving a rather concise review of autonomic drugs and their usage. Space is given also to the proper type of pre-operative medication for eye surgery patients. The major portion of Section I discusses the various anatomical and physiological areas of the eye, the diseases peculiar to each area, and a rather detailed regime of treatment for each disorder.

Section II, which comprises approximately one-third of the text, is made up of a rather complete glossary of therapeutic agents, listing their actions, ophthalmic uses, side reactions, and contraindications, preparations available, and dosages. A separate section lists many drugs with their pediatric dosage. An excellent use of tables is made throughout the text to tabulate and compare different drugs, their dosages and effects.

This text is better organized, more complete, and makes better use of tables than the first edition. It also contains the section on pediatric dosage which is invaluable. I believe this book to be a very excellent one for reference by all ophthalmologists, for the new man who needs quick reference for dosage and for the older practitioner who might



need to expand his pharmaceutical arsenal to include some of the new drugs. I also feel the general practitioner in a small town, where specialty help is not available, will find this book of exceptional value in caring for his patients who cannot make the long trip to the medical center.

All in all, this is a very good, useful book which I recommend without reservation.—*John A. Cone, M.D.*

**CARING FOR THE AGED**, by Bertram B. Moss, M.D., First edition, cloth, 368 pp., no illustrations. Garden City, New York, Doubleday and Company, Inc., 1965. \$4.95.

A general practitioner and medical director of a suburban Chicago nursing home discusses the medical, psychologic and social problems which his aged patients frequently are facing. Attempts have been made to restrict medical terminology so that the discussions will be understood easily by lay persons faced with the problems of these older individuals.

The author shows considerable insight and experience in dealing with such psychological and social problems as retirement, economic adjustments following retirement, medicare and medical insurance, legal and tax problems, housing, travel, remarriage and reemployment. He handles particularly well the pros and cons of a parent living with the children after death of a mate and the indications for and choice of nursing homes for aged parents. Also sound are the discussions of the psychiatric and emotional problems faced by elderly people as they adjust to new environments, develop chronic diseases and ultimately approach death.

The discussion of the biology of aging and of the medical problems faced by the aging probably is sufficient for the average lay reader. As a physician, however, I found a number of inaccuracies which suggested a lack of knowledge by the author of the normal anatomy and pathophysiology of disease.—*R. Lindeman, M.D.* □

## Miscellaneous Advertisements

**FOR SALE:** Office equipment. Have quit practice. Contact John F. Kupka, M.D., Haskell, Oklahoma.

**DESIRE TO LOCATE** in Oklahoma. Graduate of OU, board eligible and first part of board certification in general surgery. No military obligations. Married with three children. Contact W. E. Bowers, Jr., M.D., Box M, Hugo, Oklahoma 74743.

**FOR SALE:** Improved Hugh H. Young tubular model urological x-ray table, Potter-Bucky diaphragm, Liebel Flarsheim, Ser. GU36314, L-F Model 27, Grid 36, 115 volt, 50-60 cycle. Complete with x-ray unit controls. Excellent condition. Contact Administrator, Talley-Walker Hospital, 501 North 4th Street, Marlow, Oklahoma 73055.

**SOLO GENERAL PRACTICE** for sale. Western Oklahoma. Net income \$30,000 to \$35,000. Contact Key C, The Journal. Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

**GENERAL PRACTITIONER** completing military service in July, 1967, would like to affiliate with small group in town of 5,000. 1964 graduate of the University of Oklahoma School of Medicine. Contact James R. Priest, M.D., 2793 USAF Dispensary, McClellan AFB, California.

**WANTED: INTERNIST** or general practitioner to join a general surgeon and general practitioner in small progressive Oklahoma community. Fully equipped clinic. Fully accredited general hospital. Salary open. Study periods, retirement program and many fringe benefits. Excellent schools, churches and recreational facilities and time to enjoy them. Contact Key N. The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

**POSITION WANTED** in student health service, industrial practice, insurance work, government health agency employment, or perhaps clinic practice. M.D. with experience in general practice, insurance exams, and industrial medicine, holds GS-13 and GS-14 ratings with Civil Service. Reference may be furnished. Contact Key A, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

**GENERAL SURGEON**, internist, family physician (generalist) interested in satisfying practice with time for home life. Long established mixed generalist and specialist group in greater Kansas City area. Rapidly growing community, excellent hospital facilities. Salary one year, then partnership. Contact D. M. Eubank, M.D., Raytown Clinic, 9406 East 63rd Street, Raytown, Missouri. □

# OSMA ANNUAL MEETING

May 11th-14th, 1967

Tulsa Assembly Center • Mayo Hotel • Tulsa





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# controls infected inflammatory dermatoses that start from scratch



## Neo-Synalar<sup>®</sup> (fluocinolone acetonide-neomycin sulfate cream) Cream

The "itch-scratch" cycle usually associated with inflammation often results in infected dermatoses because broken skin surfaces are particularly vulnerable to pathogenic bacteria.<sup>1</sup> To treat infected inflammatory dermatoses, Neo-Synalar Cream combines the most active topical corticosteroid with a highly reliable antibiotic generally reserved for topical application.

In Neo-Synalar, fluocinolone acetonide controls the inflammation and provides rapid relief from associated pruritus. At the same time, its antibacterial component—neomycin—combats superficial infection caused by many gram-positive and gram-negative bacilli<sup>2</sup> that often colonize and thrive on abraded skin.<sup>1</sup>

A specially formulated vanishing cream base that is greaseless and odor free makes Neo-Synalar cosmetically appealing, and encourages greater patient cooperation.

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### controls the infection

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### stops the scratch

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**Contraindications:** Tuberculous, fungal, and most viral lesions of the skin (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of its components. **Precautions:** Neomycin rarely produces allergic reactions. Prolonged use of any antibiotic may result in overgrowth of nonsusceptible organisms; if this occurs, appropriate therapy should be instituted. Where severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for prolonged periods of time. **Side Effects:** Side effects are not ordinarily encountered with topical corticosteroids. As with all drugs, however, a few patients may react unfavorably to Neo-Synalar under certain conditions. **Availability:** Neo-Synalar Cream (0.025% fluocinolone acetonide, neomycin sulfate, equivalent to 0.35% neomycin base), 5 and 15 Gm. tubes.

**References:** 1. Pillsbury, D. M., Shelley, W. B., and Kligman, A. M.: A manual of cutaneous medicine, Philadelphia, Saunders, 1961, p. 79. 2. Barber, M., and Garrod, L. P.: Antibiotic and chemotherapy, Baltimore, Williams and Wilkins, 1963, p. 111.







*Now, now, Mrs. Forsythe, we've never lost a cold patient yet.*


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Novahistine LP is a long-acting decongestant that helps restore normal mucus secretion and ciliary activity—physiologic mechanisms which prevent infection of the respiratory tract. A dose of two tablets taken in the morning and repeated in the evening will usually keep air passages clear for 24 hours.

Use cautiously in individuals with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Caution patients who operate machinery or motor vehicles that drowsiness may result.

Each Novahistine LP tablet contains: phenylephrine hydrochloride, 25 mg., and chlorpheniramine maleate, 4 mg.

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*For relief of nasal congestion.*

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**1967**

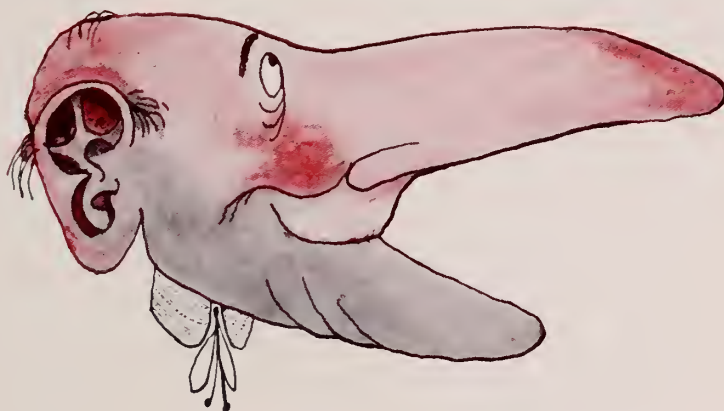
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on Rx only



- quickly relieves congested nose
- action is gentle, yet prolonged
- side effects are minimal

INDICATION: Nasal congestion. CONTRAINDICATION: Do not use in patients sensitive to small doses of sympathomimetic substances. WARNINGS: Prolonged or excessive use may cause rebound congestion. Use cautiously in patients with hyperthyroidism, coronary artery disease, hypertension, and diabetes. CAUTION: Do not shake Nasal Spray. Rinse Nasal Solution dropper or Nasal Spray tip in hot water after each use. No more than one person should use the same dropper bottle or nasal spray.

SIDE EFFECTS: Occasional local reactions: rebound congestion, slight burning or stinging, sneezing, dry nose. Occasional systemic effects: headache, drowsiness, lightheadedness, insomnia, palpitations. Overdosage in young children may produce profound sedation. DOSAGE: **Adults:** *Nasal Solution*—2 or 3 drops in each nostril every 4 to 6 hours. *Nasal Spray*—Squeeze rapidly once or twice in each nostril every 4 to 6 hours. **Children under 12:** *Pediatric Nasal Solution*—2 or 3 drops in each nostril every 4 to 6 hours. One drop should be used

in infants under 6 months. *Pediatric Nasal Spray*—Squeeze rapidly once in each nostril holding tube upright; repeat every 4 hours as necessary. SUPPLIED: OTRIVIN® hydrochloride (xylometazoline hydrochloride CIBA) *Nasal Solution*, 0.1%; dropper bottles of 1 fluidounce, bottles of 1 pint. *Nasal Spray*, 0.1%; plastic squeeze tubes of 15 ml. *Pediatric Nasal Solution*, 0.05%; dropper bottles of 1 fluidounce. *Pediatric Nasal Spray*, 0.05%; plastic squeeze tubes of 15 ml. *Nasal Solutions* contain either 0.1% or 0.05% xylometazoline hydrochloride, triethanolamine, hydrochloric acid, sodium chloride, and phenylmercuric acetate 1:50,000 as preservative in water. *Nasal Sprays* contain either 0.1% or 0.05% xylometazoline hydrochloride, potassium phosphate monobasic, potassium chloride, sodium phosphate dibasic, sodium chloride, and benzalkonium chloride 1:5000 as preservative in water. Consult complete literature before prescribing.

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C I B A



**It's easy  
for children  
to get bacteria  
U.R.I....**



# and Gantanol (sulfamethoxazole) Suspension is a good way to help them get well

## Proven effectiveness in common bacterial upper respiratory infections

Clinical results in patients probably much like those you see every day show that an overwhelming majority responded favorably to Gantanol (sulfamethoxazole) Suspension.<sup>1-12</sup> These patients, numbering over 1600 in published reports, had a variety of bacterial upper respiratory infections such as otitis media, sinusitis, pharyngitis and tonsillitis, including over 700 cases caused by beta-hemolytic streptococci.<sup>1-7</sup>

Although in bacteriologically proven streptococcal infections penicillin remains the drug of choice, Gantanol (sulfamethoxazole) has shown conversion rates comparable to those generally seen with penicillin and apparently superior to those cited in the literature for erythromycin and broad-spectrum antibiotics.<sup>1,2</sup> Conversion rates have ranged from a high of 96 per cent in 229 patients<sup>2</sup> to a low of 5 per cent in 105 cases.<sup>3,4</sup> When Gantanol (sulfamethoxazole) Suspension is used in group A beta-hemolytic streptococcal infections, it is important to continue therapy in the recommended dosage for at least 10 days. In addition, Gantanol (sulfamethoxazole) Suspension has demonstrated antibacterial activity against *D. pneumoniae*, *H. influenzae* and *Staph. aureus*. Thus Gantanol (sulfamethoxazole) Suspension may be considered a practical choice for common bacterial U.R.I., as well as an effective alternative in the penicillin-sensitive patient with proven beta-hemolytic streptococcal infection.

beta-hemolytic strep

Staph. aureus

D. pneumoniae

H. influenzae



## therapy generally uncomplicated by side effects

Such favorable results as those cited in the literature<sup>1-12</sup> are even more meaningful in view of the fact that only 27 of 1961 patients (1.4%) discontinued therapy because of side effects. Of the total side effects reported in 107 patients (5.5%), most were mild and included rash, urticaria, itching, dizziness, headache, diarrhea, nausea and vomiting, shivering sensation, skin discoloration and crystalluria.<sup>1-12</sup>

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Acute and chronic respiratory and urinary tract bacterial infections due to susceptible microorganisms. At present penicillin is considered the drug of choice in acute group A beta-hemolytic streptococcal infections; however, Gantanol (sulfamethoxazole) has shown an effectiveness approaching that of penicillin in a large number of patients. If employed in such infections, it is important that therapy be continued in the usual recommended dosage for a period of at least 10 days.

**Contraindicated** in sulfonamide-sensitive patients, pregnant females at term, premature infants or infants during first 3 months of life.

**Warnings:** Use only after critical appraisal in patients with liver damage, renal damage, urinary obstruction or blood dyscrasias. If toxic or hypersensitivity reactions or blood dyscrasias occur, discontinue therapy. In intermittent or prolonged therapy, blood counts and liver and kidney function tests should be performed. Data insufficient on prolonged or recurrent therapy in chronic renal diseases of children.

**Precautions:** Observe usual sulfonamide therapy precautions, including maintenance of an adequate fluid intake. Use with caution in patients with histories of allergies and/or asthma. Patients with impaired renal function should be followed closely since renal impairment may cause excessive drug accumulation. Occasional failures may occur due to resistant microorganisms. Not effective in virus or rickettsial infections.

**Adverse Reactions:** Following may occur: headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, Stevens-Johnson syndrome, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

**Dosage:** Children—1 teasp./20 lbs initially, followed by ½ teasp./20 lbs b.i.d. Adults—4 teasp. initially, followed by 2 teasp. b.i.d. or t.i.d., depending upon severity of infection.

**How Supplied:** Suspension 10%, 0.5 Gm sulfamethoxazole/5 cc teasp., cherry-flavored, bottles of 16 oz.

**References:** 1. Braden, B., and Colmore, J. P.: *J. Oklahoma M.A.*, 57:7, 1964. 2. Alban, J.: *Am. J. Dis. Child.*, 109:304, 1965. 3. Reichelderfer, T. E.: *Clin. Med.*, 71:1045, 1964. 4. Jackson, H.; Cooper, J.; Mellinger, W. J., and Olsen, A. R.: *Southwestern Med.*, 44:246, 1963. 5. Braden, B.; Colmore, J. P., and Cummings, M. M.: *Antimicrobial Agents Annual—1960*, p. 54. 6. Peters, J. H.: Data adapted from a Scientific Exhibit presented at the Spring Meeting of the American Academy of Pediatrics, April 26-29, 1965. 7. Peters, J. H.: *Antimicrobial Agents and Chemotherapy—1961*, p. 406. 8. Elia, J. C.: *Eye Ear Nose & Throat Month.*, 41:722, 1962. 9. Patton, J. M.: *West. Med.*, 5:46, 1964. 10. Chastain, P. J.: *J. Florida M.A.*, 48:816, 1962. 11. Grater, W. C.: *Antibiotics & Chemother.*, 12:450, 1962. 12. Exline, A. L.: *Colorado GP*, 5:(5), 11, 1963.

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\* Marks, V., and Dawson, A.:  
Brit. M. J. 7:293, 1965.

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But doesn't use  
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Parepectolin for quick relief of acute diarrhea  
...soothes colicky pain with paregoric  
...consolidates fluid stools with pectin  
...adsorbs irritants with kaolin, and protects  
intestinal mucosa.

Whether it's a 24-hour "bug", a food problem,  
or simply nervousness and anxiety, Parepectolin  
will bring the diarrhea under control until etiolo-  
gy can be determined. In some cases, Parepec-  
tolin may be all the therapy necessary.



**Parepectolin®**

Each fluid ounce of creamy white suspension contains:  
Paregoric (equivalent)..... (1.0 dram) 3.7 ml.  
Contains opium ( $\frac{1}{4}$  grain) 15 mg. per fluid  
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*warning: may be habit forming*  
Pectin ..... (2½ grains) 162 mg.  
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Usual Adult Dose: One or two tablespoonfuls three  
times daily.



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if he just doesn't care?**



**Does he really care?  
Is he alert, encouraged,  
positive and optimistic  
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the depressing impact  
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complicates convalescence,  
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Pleasant-tasting Alertonic is pipradrol hydrochloride—an effective cerebral stimulant whose gentle analeptic action helps counteract the apathy and inertia that so often delay convalescence—together with an excellent vitamin and mineral formula, in a satisfying 15% alcohol vehicle.

Nothing fosters confidence and a sense of well-being better than your own personal warmth, understanding and encouragement together with Alertonic to help insure prompt response.

*Adequate dosage is important: Prescribe Alertonic—  
one tablespoonful t.i.d., 30 minutes before  
meals...tastes best chilled.*

*And for your patient's sake, prescribe Alertonic  
in the convenient, economical one-pint bottle.*

# Alertonic®

*Available Only On Prescription*

Each 45 cc. (3 tablespoonfuls) contains: alcohol, 15%; pipradrol hydrochloride, 2 mg.; thiamine hydrochloride (vitamin B<sub>1</sub>) (10 MDR\*), 10 mg.; riboflavin (vitamin B<sub>2</sub>) (4 MDR), 5 mg.; pyridoxine hydrochloride (vitamin B<sub>6</sub>), 1 mg.; niacinamide (5 MDR), 50 mg.; choline,† 100 mg.; inositol,† 100 mg.; calcium glycerophosphate, 100 mg. (supplies 2% MDR for calcium and for phosphorus) and 1 mg. each of the following: cobalt (as chloride), manganese (as sulfate), magnesium (as acetate), zinc (as acetate), and molybdenum (as ammonium molybdate).

\*Multiple of adult Minimum Daily Requirement supplied.

†The need for these substances in human nutrition has not been established.

**Indications:** 1. Functional fatigue such as that often associated with: a depressing life experience or stressful time of life; advancing years; convalescence; limited activity or confinement. 2. Poor appetite and vitamin-mineral deficiency as they occur in: patients having faulty eating habits; geriatric patients who are losing interest in food; patients convalescing from debilitating illness or surgery.

**Contraindications:** As with other drugs with CNS stimulating action, Alertonic is contraindicated in hyperactive, agitated or severely anxious patients and in chorea or obsessive compulsive states.

**Side effects:** Reports of overstimulation have been rare. Patients who are known to be unduly sensitive to the effects of stimulant drugs should be observed carefully in the initial stages of treatment.

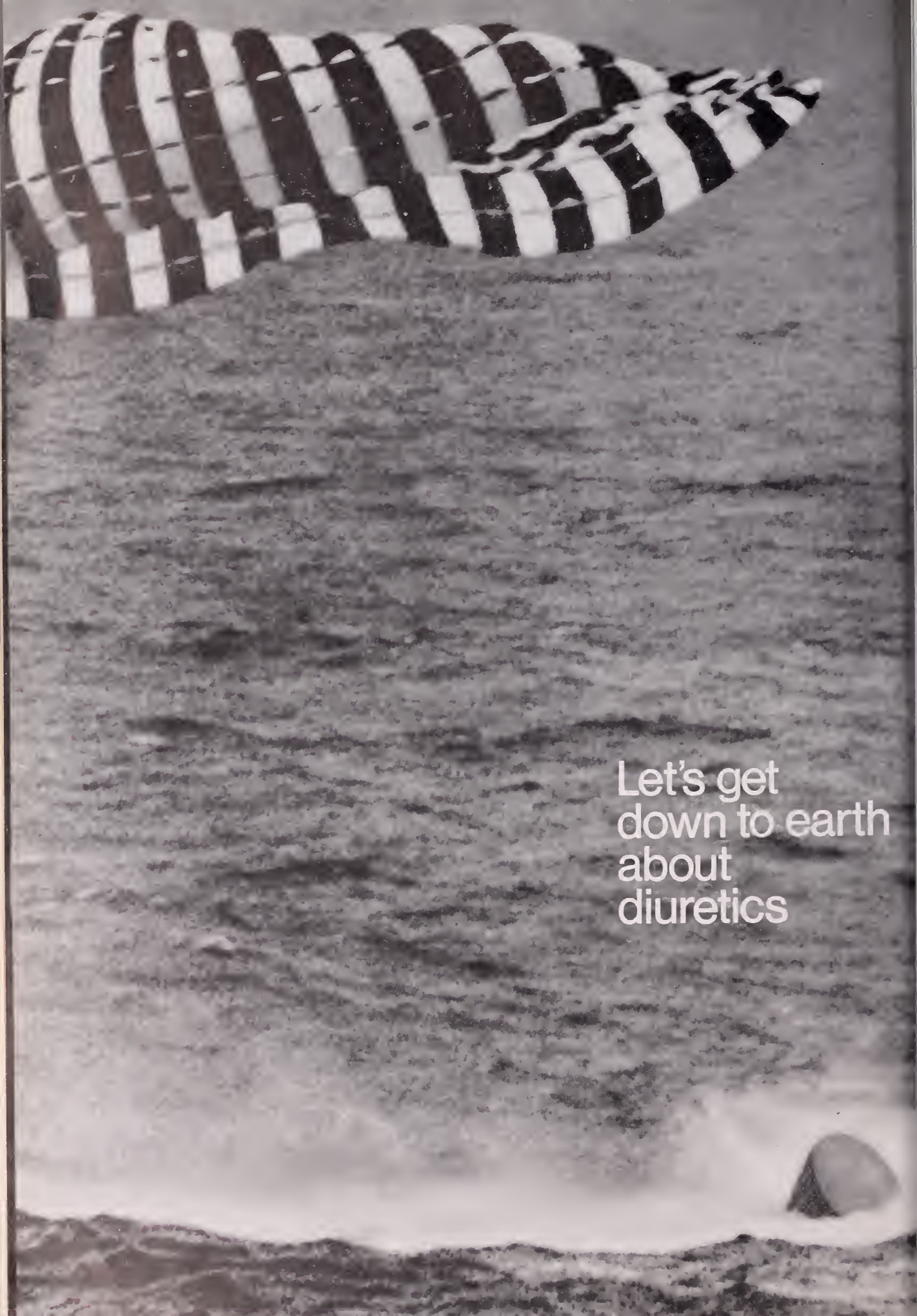
**Dosage:** Adults, 1 tablespoonful; children (over 15 years old), 1 to 2 teaspoonfuls; children (4 to 15 years old), 1 teaspoonful. To be taken three times daily 30 minutes before meals.

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More than any of the newer diuretics, Hygroton brings dosage and cost of medication down to earth.

\*Brest, A. N., et al.: J. New Drugs 5:329, 1965.

**Hygroton®**  
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**Indications:** Hypertension and many types of edema involving retention of salt and water. **Contraindications:** Hypersensitivity and most cases of severe renal or hepatic disease. **Warning:** With administration of enteric-coated potassium supplements, the possibility of small bowel lesions should be kept in mind. **Precautions:** Reduce dosage of concomitant antihypertensive agents by at least one-half. Discontinue if the BUN rises or liver dysfunction is aggravated. Electrolyte imbalance and potassium depletion may occur; take special care in cirrhosis or severe ischemic heart disease, and in patients receiving corticosteroids, ACTH, or digitalis. Salt restriction is not recommended. **Side Effects:** Dizziness, weakness, nausea, vomiting, hyperglycemia, hyperuricemia, headache, muscle cramps, postural hypotension, constipation, leukopenia, thrombocytopenia, agranulocytosis, impotence, dysuria, transient myopia, skin reactions, including urticaria and purpura, epigastric pain, or G.I. symptoms after prolonged administration. **Average Dosage:** One tablet (100 mg.) with breakfast daily or every other day. **Availability:** Tablets of 100 mg. in bottles of 100 and 1000. For full details, see the complete prescribing information. 6524-V(B)

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# New—Two Pediatric Forms of Erythromycin and Triple Sulfas



## **ERYTHROCIN®-SULFAS Chewable** (Erythromycin ethyl succinate-trisulfapyrimidines chewable tablet)

In clinical trials<sup>1,2</sup>, this orange-flavored tablet was given to 55 patients, aged four months to 18 years.

Diagnoses (multiple in some cases) represented a cross section of bacterial infections commonly seen in pediatric office practice.

Therapy was given from three to 12 days, with an average of six days.

Of the 55 patients, 30 were reported cured within 72 hours, while 22 showed partial recovery within the same time, and subsequent clinical cure.

**A clinical cure rate of 94.5%**

## **ERYTHROCIN®-SULFAS Granules** (Erythromycin ethyl succinate-trisulfapyrimidines granules for oral suspension)

87 patients were treated<sup>1,2</sup>—all children, ages four months to 15 years.

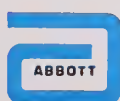
The diagnoses were multiple in some cases and were chiefly bacterial infections of the respiratory tract.

Dosage was maintained from three to 10 days; average treatment was five days. All of the ill children accepted the orange-flavored suspension favorably.

53 were clinically cured within 72 hours, while 32 showed partial relief within the same time, and subsequent clinical cure.

**A clinical cure rate of 97.7%**

1. Case Reports on File, Dept. Clin. Development, Abbott Laboratories.
2. Polley, R.F.L., Use of Erythromycin-Sulfas in Office Practice, Western Med., 7:177, July, 1966.



Brief  
Summary  
on next  
page

## ERYTHROCIN®-SULFAS

### Brief Summary

**Contraindications:** Known sensitivity to erythromycin or sulfonamides. Because of the possibility of kernicterus with sulfonamides, do not use in pregnancy at term, premature or newborn infants.

**Warnings:** As with other forms of sulfonamide therapy, carefully evaluate patients with liver or kidney damage, urinary obstruction, or blood dyscrasia. Deaths have been reported from hypersensitivity reactions and blood dyscrasias following use of sulfonamides. Perform blood counts and liver and kidney function tests if used repeatedly at close intervals or for long periods.

**Precautions, Side Effects:** Occasionally mild abdominal discomfort, nausea or vomiting may occur with erythromycin, generally controlled by reduction of dosage. Mild allergic reactions (such as urticaria and other skin rashes) may occur. Serious allergic reactions have been extremely infrequent. Use sulfonamides with caution in patients with a history of allergy. Assure adequate fluid intake to prevent crystalluria and institute alkali therapy if indicated. If overgrowth of nonsusceptible organisms occurs, withdraw the drug and institute appropriate treatment. If a patient should show signs of hypersensitivity, appropriate countermeasures (e.g. epinephrine, steroids, etc.) should be administered and the drug withdrawn.

**Adverse Reactions:** Sulfonamide therapy may be associated with headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

Side effects due to erythromycin are infrequent, but occasional abdominal discomfort, nausea, or vomiting, urticaria and other skin rashes may occur.

**Supplied:** The Granules for Oral Suspension come in bottles of 60 ml. and 150 ml. The Chewable tablets are in bottles of 50. Each 5-ml. teaspoonful of reconstituted Granules or each Chewable tablet provides erythromycin ethyl succinate equivalent to 125 mg. of erythromycin activity and 167 mg. of each of sulfadiazine, sulfamerazine and sulfamethazine.



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A therapeutic blood level cannot be obtained with small dosage. Trocinat is metabolized and eliminated in the urine as harmless degradation products—a safety factor. Sixteen years of clinical usage with the absence of untoward effects establishes the safety of Trocinat. The autonomic nervous system is not involved in its prompt action.

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**'Empirin'® Compound with Codeine Phosphate gr. 1/2 No. 3**

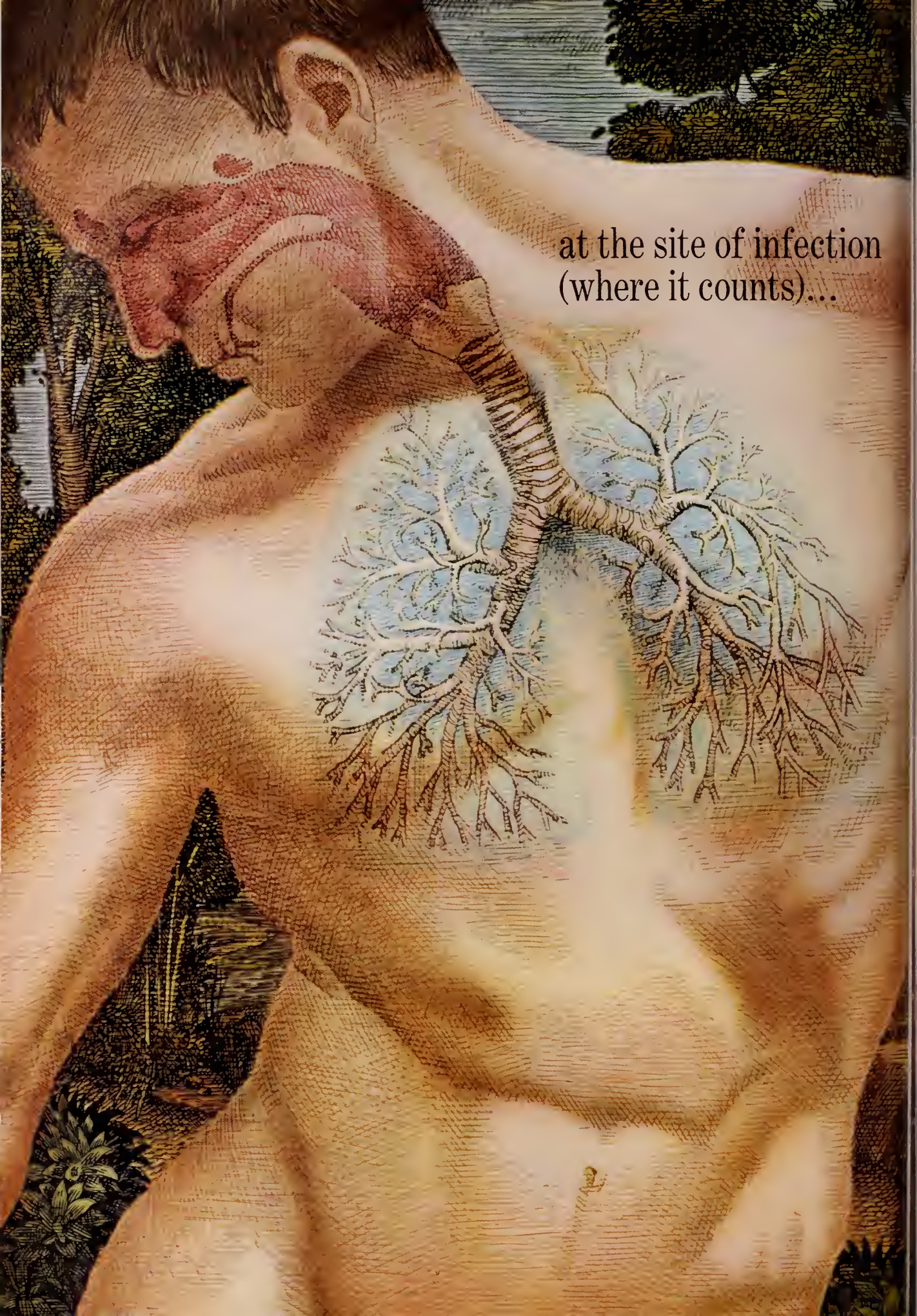
Each tablet contains: Codeine Phosphate gr. 1/2 (Warning—May be habit forming), Phenacetin gr. 2 1/2, Aspirin gr. 3 1/2, Caffeine gr. 1/2.



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at the site of infection  
(where it counts)...



## Ilosone® provides more antibacterial activity than any other oral erythromycin

**Acid stable, better absorbed ... Ilosone produces faster, higher, more prolonged blood levels, even in the presence of food<sup>1-3</sup>**

Because it is the most active form of oral erythromycin, Ilosone can help assure consistently greater antibacterial activity at the site of infection. Ilosone produces peak antibacterial blood levels two to four times those of other erythromycin preparations.<sup>1,2</sup> Not only are these levels attained earlier, but they are maintained for much longer periods. Even the presence of food does not seem to affect the activity of Ilosone.<sup>1,3</sup>

In the treatment of patients with bacterial infections susceptible to erythromycin, Ilosone has compiled an excellent therapeutic record. Since it exerts its greatest activity against gram-positive organisms, it is particularly useful in common respiratory and soft-tissue bacterial infections. Ilosone kills—not merely inhibits—streptococci, pneumococci, and more strains of

staphylococci than any other macrolide antibiotic. This bactericidal action, coupled with the high antibacterial levels attained, makes Ilosone especially valuable in patients with low host resistance, such as infants, debilitated individuals, and diabetics.

Ilosone has shown no cross-resistance with penicillin and may be effective against organisms that have become resistant to that agent. Despite its high antibacterial activity, Ilosone has demonstrated a low incidence of side reactions. Blood dyscrasias, ototoxicity, and tooth staining have not been observed. Infrequent cases of drug idiosyncrasy, manifested by a cholestatic jaundice, have occurred, but there have been no known definite residual effects.

**Ilosone®**   
Erythromycin Estolate

*(See next page for prescribing information.)*

# Ilosone®/the most active oral form of erythromycin

**Description:** Ilosone is the most active form of oral erythromycin that has been developed. Because it is stable in acid, well absorbed, and excreted in lesser amounts in the bile, it provides faster, higher, and longer-lasting levels of antibacterial activity (ABA) in the serum, even when taken with food, than do comparable doses of erythromycin.

**Indications:** Ilosone is indicated in infections caused by microorganisms sensitive to its action (especially staphylococci, hemolytic streptococci, and pneumococci). The drug is therefore useful in a high proportion of bacterial diseases encountered in clinical practice and particularly in the treatment of bacterial infections of the upper and lower respiratory tract and soft tissues.

In the treatment of acute bacterial pharyngitis and tonsillitis, this antibiotic has promptly eradicated the bacteria (streptococci) and has produced a parallel prompt clinical improvement. There have been no group A beta-hemolytic streptococci resistant to this preparation. In beta-hemolytic streptococcus infections, treatment should be maintained for ten days to prevent the development of rheumatic fever or glomerulonephritis.

Erythromycin estolate has proved to be very effective in pneumococcus pneumonia and in acute bronchitis with pneumococci on culture. Bronchopneumonia and otitis media in children have responded well to its use.

The antibiotic has been used very successfully in staphylococcus infections. Good therapeutic results have been obtained in soft-tissue infections, abscesses, cellulitis, carbuncles, wound infections, and furunculosis.

In serious staphylococcus infections, erythromycin preparations should be used only in combination therapy with other antimicrobial agents. As is the case with any treatment regimen used in these severe conditions, surgical procedures should be performed when indicated, and large dosages of the antimicrobial agents should be employed. In this fashion, Ilosone has been effective in staphylococcus pneumonia, osteomyelitis, septicemia, empyema, and meningitis.

Multiple 500-mg. doses of the drug have been useful in gonorrhea and syphilis. Since penicillin is the drug of choice for the treatment of syphilis and gonorrhea, erythromycin estolate should be employed for these infections only in patients with a history of penicillin allergy. Also, other infections due to susceptible bacteria in patients known to be hypersensitive to penicillin or other antibiotics may be considered for treatment with Ilosone. **Contraindications:** Ilosone is contraindicated in patients with a known history of sensitivity to this drug and in those with pre-existing liver disease or dysfunction.

**Side-Effects:** Data obtained from seven years' use of propionyl erythromycin ester and erythromycin estolate (Ilosone) indicate that hepatic dysfunction with or without clinical jaundice may occur during or following courses of therapy with the drug.

Changes in liver function tests in such cases have been indicative of intrahepatic cholestasis. The symptoms appear to be the result of a form of sensitization. The initial symptoms have appeared in some cases after a few days of treatment but generally have followed one or two weeks of continuous therapy or several courses of the drug. Symptoms reappear promptly if the drug is readministered to sensitive patients, usually within forty-eight hours. Eosinophilia was noted in peripheral blood counts. The findings readily subsided without apparent residual effects when treatment was discontinued. Recovery was delayed in one reported instance. The physician indicated in this case that either drug-induced jaundice or viral hepatitis may have been responsible for the findings.

In one clinical study involving ninety-three patients treated with the antibiotic, three cases of jaundice were observed and an additional eleven cases developed some changes in liver function tests. Three of the patients had abnormal liver function tests a second time on readministration of the drug.

Even though it is assumed that not all cases of jaundice have been reported, it seems clear that the number is small compared with the amount of drug that has been used. Reported cases have included persons in whom there had been administered other drugs known to be associated at times with hepatic side-effects and cases in which the presence of viral hepatitis or other disease may have been responsible for the findings. In some of the cases, associated gastro-intestinal symptoms simulated the colic of biliary tract disease. In other instances, clinical symptoms and results of liver function tests resembled findings in extrahepatic obstructive jaundice. It appears that the occurrence of jaundice after administration of Ilosone is infrequent, but further investigations are being made to estimate its incidence more accurately.

In those cases mentioned above in which jaundice appeared to

be definitely related to use of the drug, laboratory findings were characterized by increased direct-reacting bilirubin, elevated alkaline phosphatase levels, negative or weakly positive cephalofluorescence and thymol turbidity tests, elevated serum glutamyl oxalacetic transaminase levels, peripheral eosinophilia, and normal cholecystograms.

Individual idiosyncrasy seems evident since jaundice has not been reported in other patients taking prolonged courses of the medication. Patients with chronic infection have been given 1 to 2 Gm. of the drug daily for periods of two to six months, and patients with rheumatic fever have taken prophylactic doses of 0.5 Gm. daily for two years without difficulty. In one group of 144 patients who received the drug daily for two years, no jaundice was noted. It was of interest that members of six of the patients' families, who were not taking the drug, had episodes of jaundice during the study period.

Transaminase and serum alkaline phosphatase levels were determined in a group of fifty-four adults and children who took 250 mg. of Ilosone daily for an average of sixteen months as a rheumatic fever prophylaxis. The results were compared with those of a similar group of forty-four patients who received penicillin. There were no cases of jaundice in either group. Elevations of SGPT and serum alkaline phosphatase levels during the course of treatment was observed in one patient treated with Ilosone and in two patients treated with penicillin. Seven other patients in the group receiving Ilosone and four others in the penicillin group showed elevations in one of the tests at some time during administration of the drugs.

Very satisfactory therapeutic results, without toxicity, were reported in 102 pediatric patients who received short-term (ten day) courses of Ilosone in the treatment of streptococcus infections. Results of liver function tests in these patients were comparable to those in a similar control group who had received penicillin.

Gastro-intestinal disturbances not associated with hepatic effects are observed in a small proportion of individuals as a result of a local stimulating effect of the medication on the alimentary tract; however, the normal intestinal gram-negative bacterial flora is not appreciably altered by erythromycin drugs.

Although allergic manifestations are uncommon with the use of erythromycin, there have been occasional reports of urticarial skin eruptions, and, on rare occasions, anaphylaxis.

**Administration and Dosage:** Ilosone is administered orally.

Ilosone Pulvules®

Ilosone Chewable Tablets

Ilosone Drops

Ilosone, 125, for Oral Suspension

For infants and for children under twenty-five pounds of body weight, the usual dosage is 5 mg. per pound every six hours; for children twenty-five to fifty pounds, 125 mg. every six hours (Tablets Ilosone Chewable should be chewed or crushed and swallowed with water.)

For adults and for children over fifty pounds, the usual dosage of Ilosone is 250 mg. every six hours.

For severe infections, these dosages may be doubled.

When larger doses are indicated, parenteral erythromycin therapy should be considered.

In the treatment of syphilis, the recommended total dosage 20 to 30 Gm. given in divided doses for a period of ten to fifteen days. Close follow-up of the patient is necessary since erythromycin drugs have not had adequate evaluation in all stages of syphilis. Examinations of spinal fluid are recommended as part of the follow-up therapy.

For gonorrhea, 500 mg. four times a day for four days is recommended. In the treatment of gonorrhea, patients with suspected lesion of syphilis should have a dark-field examination before receiving antibiotics, and monthly serologic tests should be made for a period of three months.

**How Supplied:** Pulvules Ilosone, Capsules, N.F., 125 and 250 mg. (equivalent to base), in bottles of 24 and 100.

Tablets Ilosone Chewable, N.F., 125 mg. (equivalent to base) in bottles of 50.

Ilosone Drops, 5 mg. (equivalent to base) per drop, in 10-cc size packages, with dropper calibrated at 25 and 50 mg.

Ilosone, 125, for Oral Suspension, N.F., 125 mg. (equivalent to base) per 5-cc. teaspoonful, in 60 and 150-cc.-size packages

**References:** 1. Griffith, R. S., and Black, H. R.: *Am. J. M. Sc.*, 247:69, 1956.  
2. Griffith, R. S., and Black, H. R.: *Antibiotics & Chemother.*, 12:398, 1956.  
3. Hirsch, H. A., Pryles, C. V., and Finland, M.: *Am. J. M. Sc.*, 239:198, 1950.

Additional information available to physicians upon request.  
Eli Lilly and Company, Indianapolis, Indiana 46206.

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...can be rough when epidemics of nausea and vomiting strike a family. Emetrol offers prompt, safe relief. It is free from toxicity<sup>1</sup> or side effects<sup>2,3</sup> and will not mask symptoms of serious organic disorders.

1. Bradley, J. E., *et al.*: J. Pediat. 38:41 (Jan.) 1951.
2. Bradley, J. E.: Mod. Med. 20:71 (Oct. 15) 1952.
3. Crunden, A. B., Jr., and Davis, W. A.: Am. J. Obst. & Gynec. 65:311 (Feb.) 1953.



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**Equagesic<sup>®</sup>**

(meprobamate and  
ethoheptazine citrate with  
aspirin)



**Precautions:** Keep out of reach of children. Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use of meprobamate may result in dependence or habituation in susceptible persons—as ex-addicts, alcoholics, severe psychoneurotics. Withdraw gradually after prolonged high dosage to avoid possibly severe withdrawal reactions including epileptiform seizures. Warn patients of possible reduced alcohol tolerance. If drowsiness, ataxia or visual disturbances occur, reduce dose. If symptoms persist, caution patients against operating machinery or driving. Give cautiously to patients with suicidal tendencies. Treat attempted suicide with immediate gastric lavage and appropriate supportive therapy.

**Side Effects:** Ethoheptazine and aspirin may occasionally cause nausea, vomiting, epigastric distress, and rarely dizziness and CNS depression. Overdosage may result in salicylate intoxication. Meprobamate rarely causes allergic or idiosyncratic reactions. These reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Mild reactions are characterized by urticarial or erythematous maculopapular rash. Acute non-thrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever have been reported. Meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioedema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. A few cases of leukopenia, usually transient, have been reported following prolonged dosage. Rarely, cases of aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis, and hemolytic anemia have been reported; almost always, in the presence of known toxic agents.

**Contraindications:** History of sensitivity or severe intolerance to aspirin or meprobamate.

**Composition:** 150 mg. meprobamate, 75 mg. ethoheptazine citrate and 250 mg. aspirin per tablet.  
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on his  
mind,  
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When pain evokes anxiety and tension, thereby heightening patient discomfort, a simple analgesic may only touch on part of the problem.

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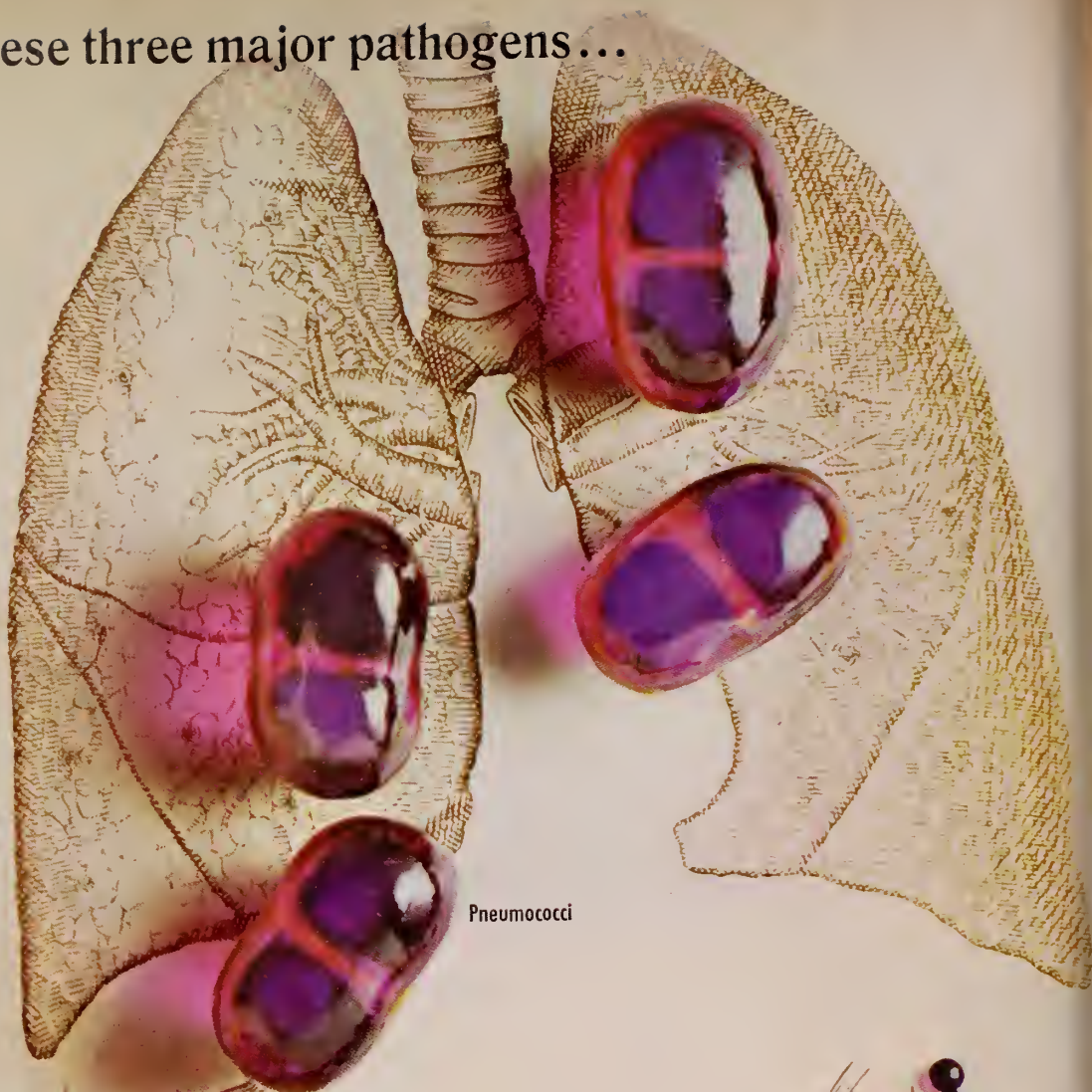
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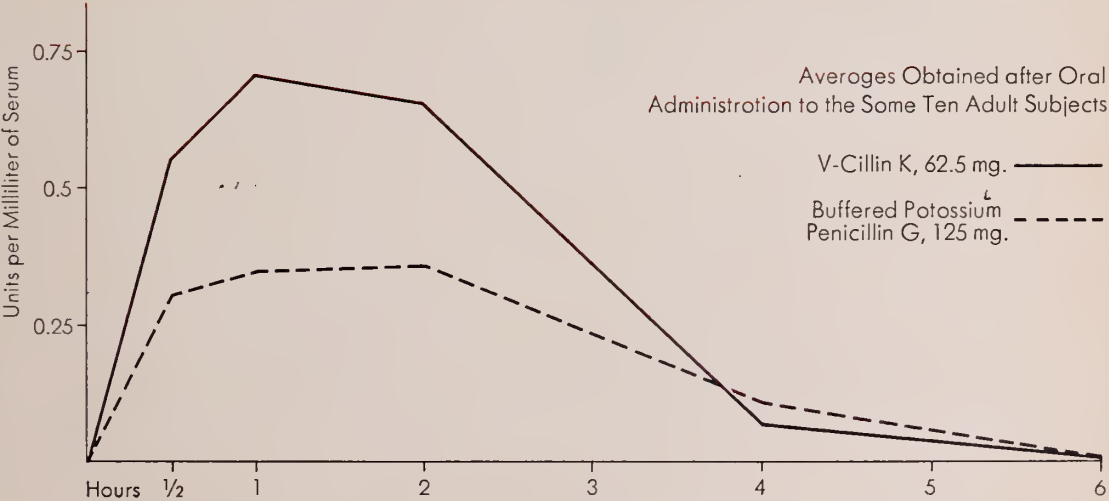
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Cloxacillin	0.2	0.2-0.8	0.1	0.1-0.8	—	—
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Adapted from Klein, J. O., and Finland, M. New England J. Med., 269 1019, 1963.

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## The JOURNAL

of the Oklahoma State Medical Association

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Articles accepted for publication, including manuscripts of annual meeting papers, are the sole property of the *Journal* and must not have been published elsewhere. Authority for approval of all contributions rests with the Editorial Board, and the Board reserves the right to edit any material submitted. Manuscripts should be typewritten, double-spaced and submitted in original and one copy. Receipt of manuscripts will be acknowledged and unused manuscripts returned. Used manuscripts will be returned on request. The *Journal of the Oklahoma State Medical Association* is not responsible for the statements or opinions of any contributor.

### STYLE

Footnotes, bibliographies, and legends for illustrations should be submitted on separate sheets, double-spaced. Bibliographies should follow in order of: name of author, title or article, name of periodical with volume number, page and date of publication. These references should be alphabetized and numbered in sequence.

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### NEWS

Members of the Oklahoma State Medical Association, the constituent societies of the association, and all readers in general are invited to supply news items of general interest to the profession. Such copy should be received one month prior to the expected date of publication.

### ADVERTISING

All advertising copy must be approved by the Editorial Board before acceptance for publication. Copy and/or engravings must reach the *Journal* office by the first of the month preceding the month of publication. General and miscellaneous advertising rates will be sent on request.

### EDITING SERVICE

The Editorial Board reserves the prerogative to submit contributions to a Medical Editing Service when warranted. If such is felt necessary, the Editor will contact the author for approval, informing him that there will be a modest charge for this service.

### REPRINTS

Authors will receive reprint order forms from the Transcript Press, P.O. Drawer 1058, Norman, Oklahoma 73069, prior to final publication of their articles. Other requests for reprints must be made to the Transcript Press within 30 days after publication.



Happiness is wishing every Doctor's wife "Happy New Year" and "Best Wishes" for the whole year through—from our State President Mrs. Richard A. Clay.

The Mid-Winter Board Meeting got off to a good start Monday, January 23 at the state medical office. Coffee and rolls at 9:30 (Courtesy of Special Events Committee, Oklahoma County Medical Auxiliary). Mrs. J. Hutchings White, State Mental Health Chairman, had a special part on the program and good reports were given by State committee chairmen and County Presidents.

"Happiness" was a gala luncheon honoring our State President, Mrs. Richard A. Clay, State President-Elect, Mrs. George Miller, Councilor to Southern Medical Auxiliary, Mrs. Ben Gaston, and two National Regional Chairmen—Mental Health, Mrs. Tom Sparks, and AMA-ERF, Mrs. Richard Witt. This gala affair was given by Mrs. Virgil Ray (Zella Ruth) Forester in her lovely home at 1:00 p.m. Past-Presidents were special guests. Everyone attending the meeting was invited. Lovely affairs and Zellie go hand in hand and it was much fun "getting to know you."

\* \* \*

#### Deadline Calendar:

January—COUNTY PRESIDENTS, Appoint your NOMINATING COMMITTEES.

February—Hold county election. The State President-Elect needs this information for the directory.

County President-Elect, send slate of officers and committee chairmen for the year to State President-Elect.

Very Important—State Treasurer's books closed February 15th. Last chance to pay dues.

March—DOCTORS' DAY, March 30th.

Elect delegates to State convention (one delegate for each 25 members or portion thereof).

Reports—County chairmen to State chairmen. County Presidents to State President.

April—COUNTY PRESIDENTS: Send *Loan Fund Contributions* to:

Mrs. Pat Fite, Sr., 1417 Emporia, Muskogee, Oklahoma.

*AMA-ERF Contributions* to: Mrs. J. Hartwell Dunn, 501 N.W. 39, Oklahoma City, Oklahoma.

May—STATE CONVENTION—May 11th-14th, 1967—Tulsa, Oklahoma. ALL EXECUTIVE BOARD MEMBERS ARE EXPECTED TO ATTEND. All Auxiliary Members are cordially invited.

\* \* \*

Doctors' Day is a perfect time for Doctor's wives to become closer as they plan programs and "fun things" to honor their "Special Guys." Your Auxiliary Page Journal editor would appreciate hearing about planned events—remember, there's a special award for the best observance. Last year's winner was McAlester and the Muskogee Auxiliary won the trophy at Southern Medical in November. Mrs. Elias Margo is your State Doctors' Day Chairman and will be glad to send you information and suggestions. Mrs. Margo's address is 6801 N. Country Club Drive, Oklahoma City, Oklahoma.

\* \* \*

Don't forget that auxiliaries are not independent organizations as our name alone should remind us. We are part of the American Medical Association. It cannot be over-emphasized that *any* activity of the auxiliary must have the approval of the corresponding medical society. □

**Another Oklahoma physician is in Viet Nam** with the Volunteer Physicians Program sponsored by the U.S. Agency for International Development and the American Medical Association.

Jack D. Welsh, M.D., of the University of Oklahoma Medical Center, left for Viet Nam January 27th. He will spend two months working in a Vietnamese provincial hospital at a salary of \$10 per day.

**The Oklahoma Supreme Court**, in a decision handed down in January, held that the parents of a stillborn child have no cause of action against a physician who allegedly caused injury to a child before birth.

"Since no cause of action accrues to a child born dead for prenatal injuries," the decision said, "none survives to the personal representative or next of kin under the wrongful death statute."

**The Wall Street Journal** recently quoted the **British Medical Association** as saying that the average National Health Service (Britain's Medicare) general practitioner has 2,400 state patients and earns \$8,400 a year, the bulk of his income, for treating them. He will see over 100 patients a day.

A recent article in *Medical Economics* magazine shows the average U.S. doctor sees 169 patients in his office per week.

**While delivering a paper to the Socio-Economic Congress in Chicago in January**, James L. Dennis, M.D., Dean and Director of the Oklahoma University Medical Center, said, "What the family doctor will be (in the future), I don't know. But, there will always be a family doctor." Earlier in his talk he stated, "Conservatively speaking, Oklahoma physicians are conservative."

**The Aetna Medicare office in Oklahoma City** has announced it will begin issuing a newsletter regarding the administration of Part

B of the Medicare law, the voluntary medical insurance portion of the program. A folder will be supplied to each physician so he may preserve the newsletters for future reference.

**The Oklahoma Partners of the Alliance for Progress** are collecting used and outmoded equipment and instruments to equip a charity hospital in Tlaxcala, Mexico. They will accept any kind of medical equipment or supplies. Inquiries should be sent to Paul E. Plowman, D.D.S., 3022 N.W. Expressway, Oklahoma City, Oklahoma.

**The Executive Office** has received several reports of the misuse of amphetamines by teenagers. Physicians are urged to remind their patients not to "share" these drugs with others.

A "Preventicare Bill" has been introduced in Congress by Senator Williams of New Jersey. The bill would finance the operation of five regional health protection centers where physical examination tests would be provided without charge to persons 50 years of age and over, such tests to include the cardiovascular, respiratory, gastrointestinal, genito-urinary, musculoskeletal and metabolic systems. Also, grants could be made to medical schools and hospitals for the establishment of additional health protection centers. It is Senate Bill 513.

## MEETINGS

**February 21st**—OSMA Regional Postgraduate Course "Respiratory Infections," Bartlett Memorial Hospital, Sapulpa, Oklahoma

**May 11th-14th** — OSMA Annual Meeting, Tulsa Assembly Center, Tulsa

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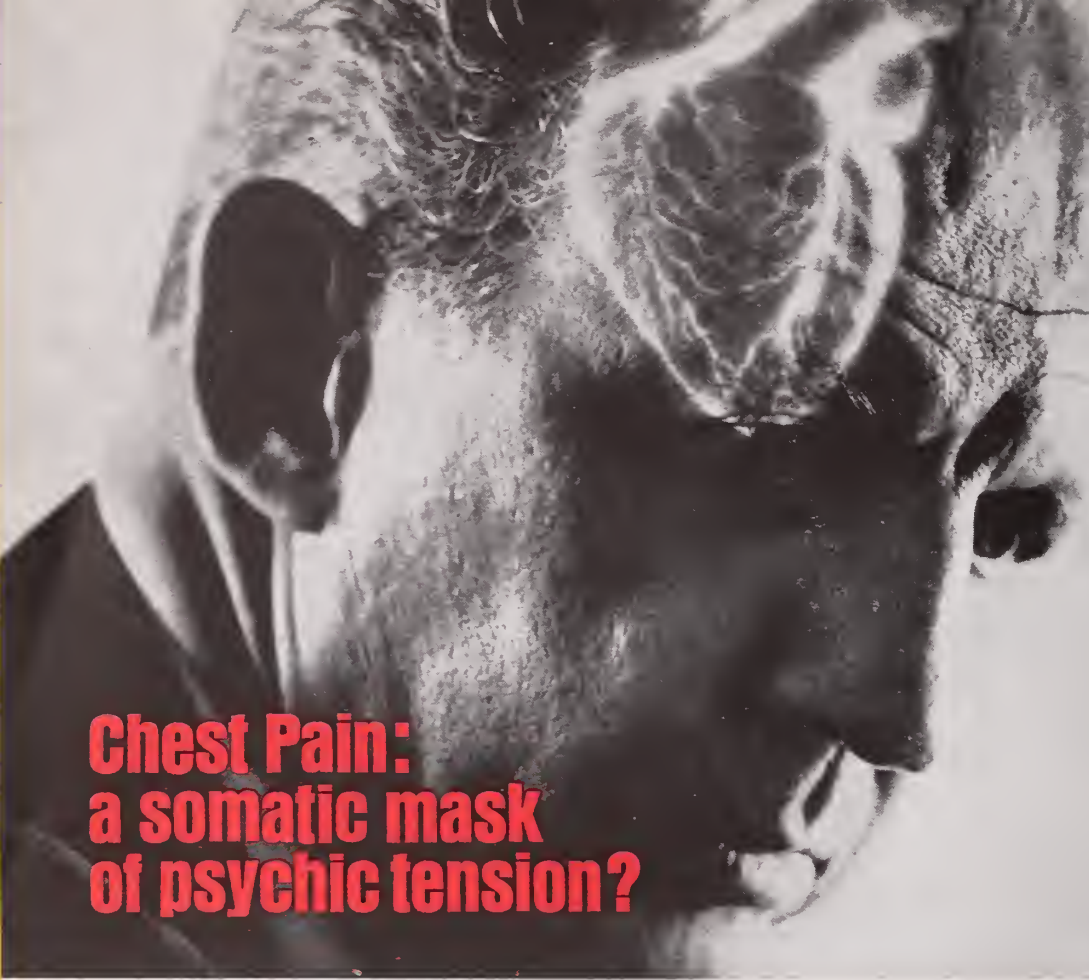
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**Precautions:** Limit dosage to smallest effective amount in elderly patients (not more than 1 mg, one or two times daily) to preclude ataxia or oversedation. Advise patients against possibly hazard-

ous procedures until correct maintenance dosage is established; driving during therapy not recommended. In general, concurrent use with other psychotropic agents is not recommended. Warn patients of possible combined effects with alcohol. Safe use in pregnancy not established. Observe usual precautions in impaired renal or hepatic function and in patients who may be suicidal; periodic blood counts and liver function tests advisable in long-term use. Cease therapy gradually.

**Side Effects:** Side effects (usually dose-related) are fatigue, drowsiness and ataxia. Also reported: mild nausea, dizziness, blurred vision, diplopia, headache, incontinence, slurred speech, tremor and skin rash; paradoxical reactions (excitement, depression, stimulation, sleep disturbances and hallucinations) and changes in EEG patterns. Abrupt cessation after prolonged over-dosage may produce withdrawal symptoms similar to those seen with barbiturates, meprobamate and chlordiazepoxide HCl.

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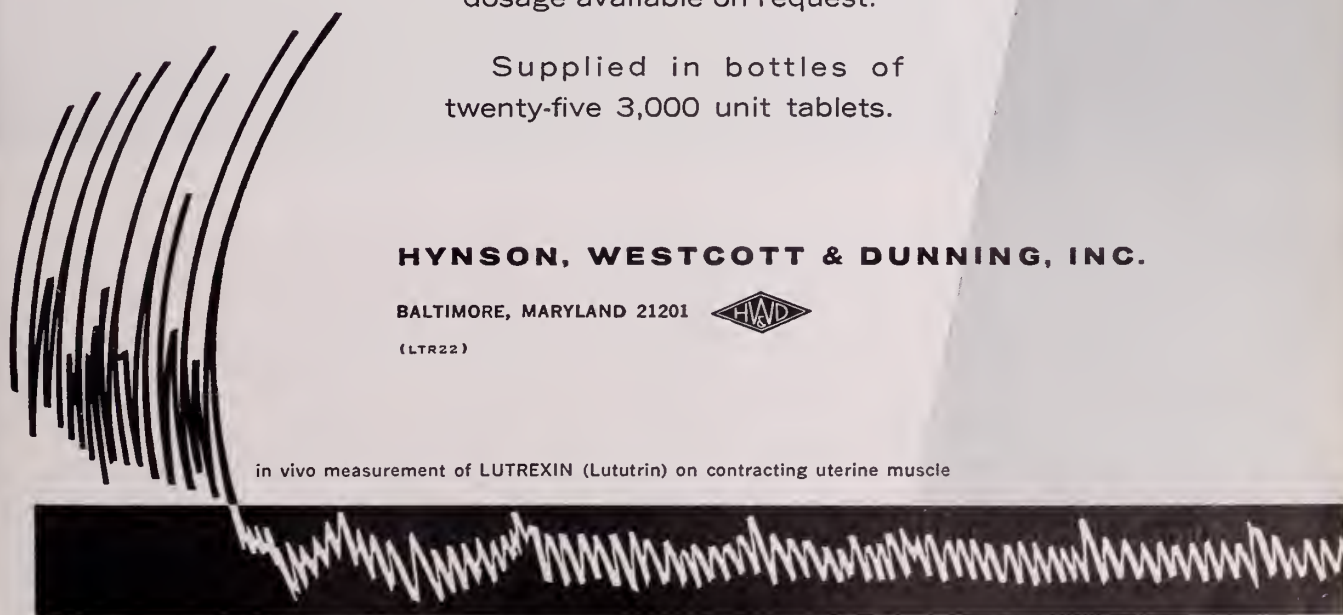
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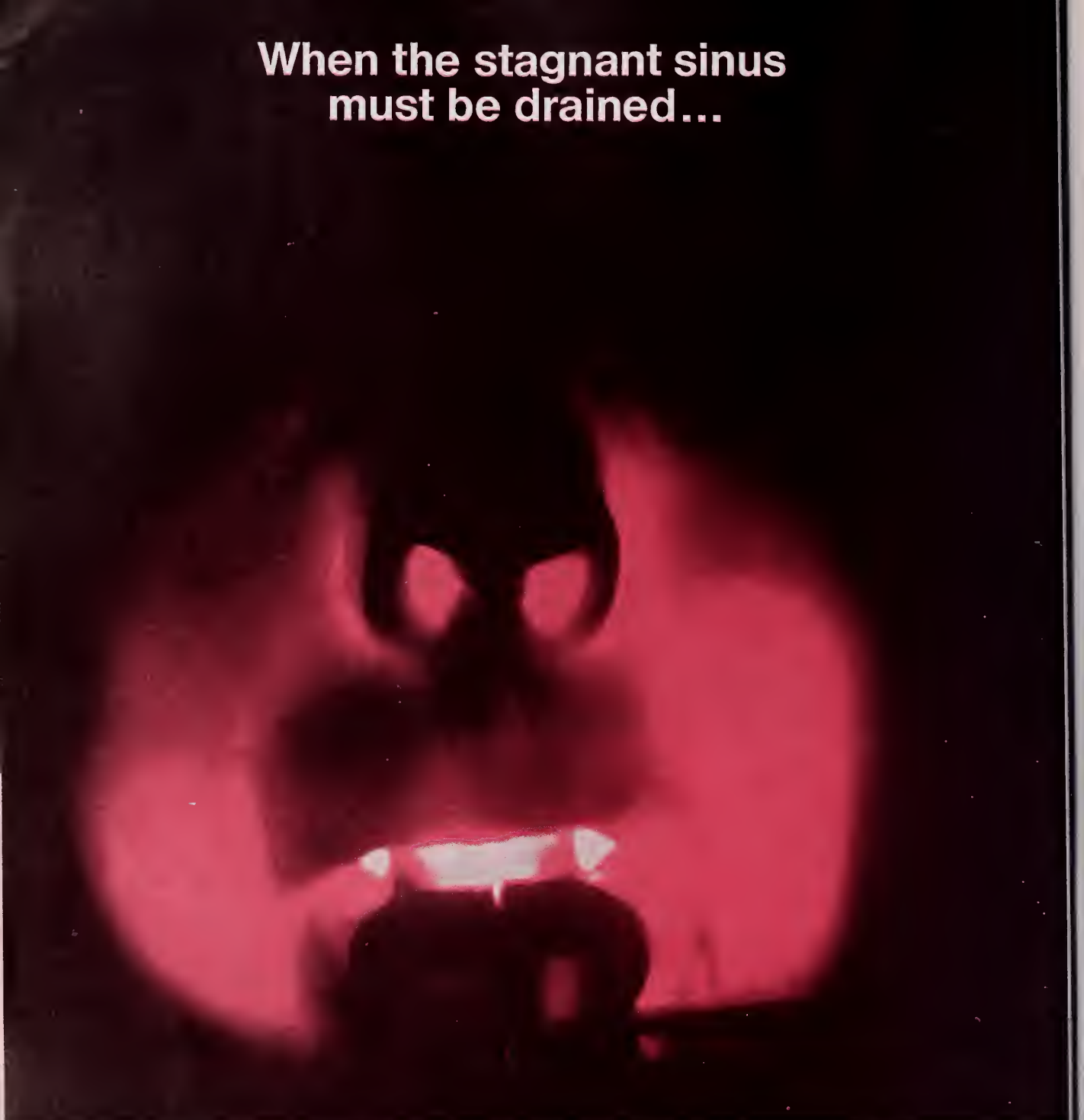


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# INFLAMMATION: A cellular fight for life

*A SYNTEX REPORT based on recently developed hypotheses about topical corticosteroids, including the cellular theories of inflammation by Thomas F. Dougherty, Ph.D., University of Utah.*

You are looking at a fibroblast fighting for life. This cell—one of the most common found in connective tissue—has literally been poisoned by cytotoxins released from other cells that have ruptured. Soon, if the abnormal activity of this fibroblast does not cease, it, too, will rupture and die—one more casualty in the inflammatory wave of destruction precipitated by injury.

Until a short time ago no one had ever witnessed such a scene at the cellular level. Now, through advanced cinemicrographic techniques, it is possible to view and photograph the inflammatory process as produced experimentally in living animal tissue. This method permits new insight into the mechanism of inflammation and the role of corticosteroids in therapeutic management. Equally important, these techniques shed new light on factors that may make one corticosteroid more effective than another—factors that can be correlated with other chemical, biologic, and clinical parameters.

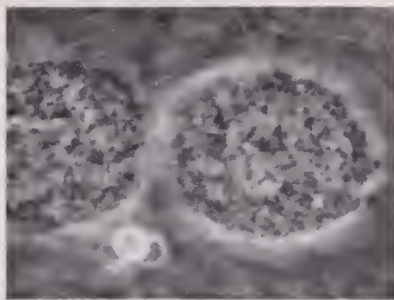


## Visual evidence of how corticosteroids influence the inflammatory reaction

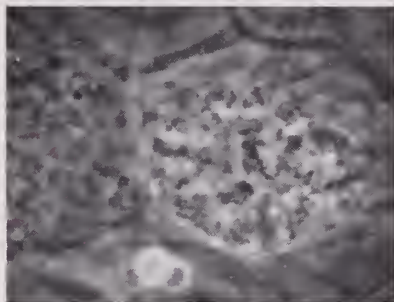
Working with phase-contrast cinematography on living animal tissue, Doctors Thomas F. Dougherty and David Berliner of the University of Utah College of Medicine have actually filmed cellular events that occur during the inflammatory reaction. This remarkable study\* and additional work by these investigators, as well as by others, have established a new theoretical biologic basis for the antiinflammatory effect of the corticosteroids. (It must be noted that other theories, such as the lysosome or so-called "suicide bag" theory, have been postulated, although it is quite likely that there are more similarities than differences among the various theoretical models.)

### The inflammatory wave of destruction

In this investigation an injurious injection of gelatin is used to set off an inflammatory reaction in living mouse tissue. What follows is a wave of destructive cellular activity that comprises the inflammatory response to injury. Mast cells (which contain heparin, serotonin and histamine) take up water, swell and rupture, releasing their contents, which are toxic outside the mast cell wall. These toxins, in turn, cause disintegration of other cells (such as fibroblasts) and the release of additional toxic material. Capillaries, too, take up water and leak unformed blood elements, causing edema. And polymorphonuclears, lymphocytes and perithelial cells invade the inflamed site. As a result of all these changes, the cellular environment reaches a state of turmoil.



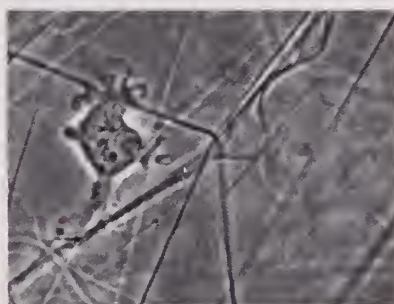
*Phase-contrast microscopy showing mast cell before injury.*



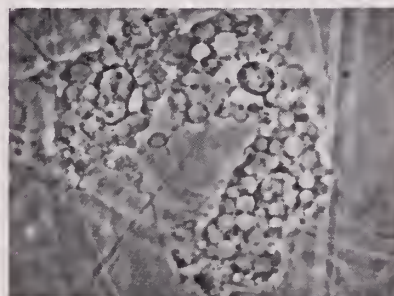
*Mast cell (after injury) has broken up and released cytotoxins.*

### How corticosteroids change the picture

Corticosteroids appear to virtually stop the abnormal cellular activity that constitutes the inflammatory reaction. This permits the body's natural resources to clear up the inflamed area and repair the damaged tissue. This interpretation is supported by the fact that when the injurious gelatin solution is injected simultaneously with a corticosteroid — Synalar (fluocinolone acetonide) — the inflammatory pattern simply does not develop.



*Fibroblast in high state of activity, much distorted.*



*Mast cells showing effects of corticosteroid action: cells are normal in size, shape and activity.*



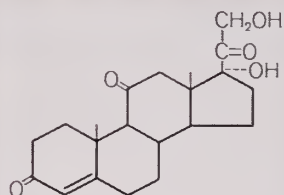
In summarizing his study Doctor Dougherty states: "...we also feel this work may explain why one corticosteroid helps a patient more rapidly and effectively than another. If it does, it is because one corticosteroid is the fastest, most effective inhibitor of the series of inflammatory events at the tissue level."

\*A New View of Corticosteroid Action in Inflammatory Dermatoses, a film based on this study, is now available from your Syntex representative.

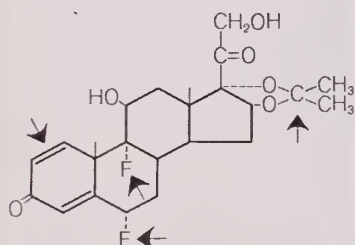


# How advances in chemical design have achieved greater steroid potency

The chemical modification of corticosteroid molecules from the advent of hydrocortisone to the development of Synalar (fluocinolone acetonide) is a prime example of how biochemists can "design" to increase therapeutic activity and minimize undesirable side actions. Below, for example, we see the important changes that were made in reference to the hydrocortisone molecule to produce fluocinolone acetonide, one of the most active of all topical corticosteroids. As a result, a 0.01% preparation of Synalar (fluocinolone acetonide) has been reported to do the work of a 1% hydrocortisone product containing 100 times more corticosteroid. And it can often do it more effectively.



**Hydrocortisone**



**Fluocinolone Acetonide (Synalar)**

- ☐ a double bond between carbons 1 and 2
- ☐ fluorine substitutions at both the 6- $\alpha$ , and the 9- $\alpha$  positions
- ☐ the addition of the acetonide at the 16- $\alpha$ , 17- $\alpha$  positions, thus providing one of the most potent topical corticosteroids available.

## How bioassay tests are used to "predict" therapeutic potential

Biologic assays are another tool used by researchers to help establish the relative activity of corticosteroids. To date no single method of assaying corticosteroid activity has emerged as the ideal "yardstick" for predicting therapeutic potential. Taken together, however, these methods have proved useful. When such tests are run on various corticosteroids, a definite order of corticosteroid activity becomes evident. Compounds with the highest order of activity may be expected to merit clinical trial to establish their high therapeutic potential. When assayed by these methods, fluocinolone acetonide (Synalar) emerges as one of the most active topical corticosteroids, milligram for milligram, available for clinical application today.



**THE THYMUS INVOLUTION ASSAY<sup>1-4</sup>** is run on adrenalectomized rats. The sizes of the glands are measured, and the degree of involution caused by the steroid is determined as an indication of its potency. In the above photo, the comparative involution of thymus glands achieved with hydrocortisone and Synalar (fluocinolone acetonide) is shown. Untreated controls (A) show normal size. Group B—injected with 1, 2 and 4 mg. of hydrocortisone—show progressively smaller thymuses as does Group C—injected with fluocinolone acetonide—but with only 1/500th the dose of hydrocortisone.



**THE ANTIGRANULOMA ASSAY<sup>1-4</sup>** also utilizes adrenalectomized rats. Granulomas are induced by subcutaneous implantation of cotton pellets on either side of the thorax. The degree of granuloma inhibition achieved by a steroid reflects its potency. The above photo shows the inhibition of granuloma formation achieved with hydrocortisone and Synalar (fluocinolone acetonide). Untreated controls (A) show large, red granulomas adhering to the pellets. Group B, receiving hydrocortisone and Group C, receiving fluocinolone acetonide, show little, if any, granuloma formation. Fluocinolone acetonide produced the same effect as hydrocortisone with only 1/500th the dose. This assay, as well as the thymus involution assay, measures systemic rather than topical corticosteroid activity. Nevertheless, results by these methods correlate well with other assays and with the milligram potencies of topical steroids in current clinical use.



# Worldwide clinical experience confirms the predictable therapeutic potential of Synalar

It is particularly gratifying that the promise of the advanced chemical design and high order of bioassay activity of Synalar (fluocinolone acetonide) has been confirmed by widespread therapeutic application. Indeed, the impressive clinical response rate of Synalar has been documented in no fewer than 232 papers from 22 countries.

## Representative Clinical Results with Synalar\*

Efficacy Documented in over 4,000 Patients

Condition	Number of Publications	Number of Patients	Significant Improvement†
Contact Dermatitis	27	750	713
Eczematous Dermatitis	21	472	409
Seborrheic Dermatitis	18	442	426
Atopic Dermatitis	24	460	426
Psoriasis	36	1,699	1,510
Neurodermatitis	18	351	324
<b>Total</b>	<b>144</b>	<b>4,174</b>	<b>3,808</b>

\*Complete bibliography on request.

†Expressed by the authors as excellent, very good, good, complete remission of inflammation, etc.

### PRESCRIBING INFORMATION

*For initiation of therapy:* Cream 0.025%, 5 and 15 Gm. tubes, 425 Gm. jars; *for emollient effect:* Ointment 0.025%, 15 Gm. tubes; *for maintenance therapy:* Cream 0.01%, 15 and 45 Gm. tubes, 120 Gm. jars; *for intertriginous or hairy sites:* Solution 0.01%, 20 cc. and 60 cc. plastic squeeze bottles; *for infected inflammatory dermatoses:* Neo-Synalar® Cream (0.025% fluocinolone acetonide, neomycin sulfate, equivalent to 0.35% neomycin base), 5 and 15 Gm. tubes.

**CONTRAINDICATIONS:** Tuberculous, fungal, and most viral lesions of the skin, (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of the components. **PRECAUTIONS:** Synalar preparations are virtually nonsensitizing and nonirritating. However, the solution may produce burning or stinging when applied to denuded or fissured areas. In some patients with dry lesions, the solution may increase dryness, scaling or itching. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for pro-

longed periods of time. Prolonged use of any antibiotic may result in overgrowth of nonsusceptible organisms; if this occurs, appropriate therapy should be instituted. When severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. **SIDE EFFECTS:** Side effects are not ordinarily encountered with topically applied corticosteroids. As with all drugs, however, a few patients may react unfavorably to Synalar under certain conditions. The neomycin in Neo-Synalar Cream rarely produces allergic reactions.

**REFERENCES:** 1. Lerner, L. J., Bianchi, A., Turkheimer, A. R., Singer, F. M., and Borman, A.: Anti-inflammatory steroids: potency, duration and modification of activities. *Ann NY Acad Sci* 116:1071 (Aug. 27) 1964. 2. Idem: Comparison of anti-granuloma, thymolytic and glucocorticoid activities of anti-inflammatory steroids. *Proc Soc Exp Biol Med* 116:385 (June) 1964. 3. Ringler, A.: Activities of adrenocorticosteroids in experimental animals and man, in Dorfman, R. I.: *Methods of hormone research*, New York, Academic Press, 1964. vol. III, pp. 234-280. 4. Gubersky, V. R.: To be published.

fluocinolone acetonide—an original steroid from

**SYNTEX**  
LABORATORIES INC., PALO ALTO, CALIF.

For inflammatory  
dermatoses...  
by any measure  
a topical corticosteroid  
of choice

# Synalar® (fluocinolone acetonide)

Milligram for milligram  
one of the most active topical  
corticosteroids available

Rapid and predictable  
in antiinflammatory and  
antipruritic activity

Results often comparable to  
those of systemic corticosteroids  
with fewer hazards

When thiazide  
or reserpine alone  
won't keep

Establish and  
maintain  
early, more  
decisive control  
of blood pressure

**BLOOD  
PRESSURE  
DOWN**

When blood pressure won't stay down despite initial therapy—when complaints of headache, fatigue or dizziness are often voiced—it may be time for a change to DIUTENSEN-R.

DIUTENSEN-R is thiazide and reserpine plus cryptenamine—a rational, comprehensive therapy to help establish and maintain early, more decisive control of blood pressure.

The cryptenamine in DIUTENSEN-R helps improve normal vasodilating reflexes while the thiazide and reserpine components maintain vasorelaxant, sedative, and saluretic benefits. Cryptenamine lowers pressoreceptor reflex thresholds (which may be abnormally high in hypertension)—“resets” pressoreceptors to function at more nearly normotensive levels.

*Early, more decisive control with DIUTENSEN-R helps secure continuing benefits—may reduce or even obviate the need for poorly tolerated drugs later in therapy.*

**Indications:** DIUTENSEN-R may be employed in all grades of essential hypertension.

**Dosages:** Usual dose is 1 tablet twice daily, at morning and evening meals. However, adjustment of dosage to suit individual circumstances may be required. Please refer to package insert for full particulars.

**Side effects and precautions:** The side effects observed with patients on DIUTENSEN-R have been of a mild and nonlimiting nature. These include occasional urinary frequency, nocturia, nasal congestion, muscle cramps, skin rash, joint pains due to gout and nausea and dizziness which have been reported for the individual components. Most of these symptoms disappear while the drug is continued at the same or lower dosage level. The concomitant use of digitalis and DIUTENSEN-R may increase the possibility of digitalis-like intoxication. If there is evidence of myocardial irritability (extrasystoles, bigeminy or AV block), dosage of DIUTENSEN-R should be reduced or discontinued. Nocturia in patients with marginal cardiac status and salt and fluid retention can be effectively controlled by limiting the time of administration to early afternoon. DIUTENSEN-R should not be used in patients with a known intolerance to reserpine. Package inserts furnish a complete summary of recommended cautions related to each of the ingredients of DIUTENSEN-R.

<sup>a</sup>As tannate salts equivalent to 130 Carotid Sinus Reflex Units.

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**DIUTENSEN-R<sup>®</sup>**

Cryptenamine 1.0 mg • Methyclothiazide 2.5 mg Reserpine 0.1 mg



IT'S AS PLAIN  
AS THE  
NOSE ON HIS  
FACE.



UP TO 10-12 HOURS' CLEAR BREATHING ON ONE TABLET

## **Dimetapp® Extentabs®**

(Dimetane® [brompheniramine maleate], 12 mg.; phenylephrine HCl, 15 mg.; phenylpropanolamine HCl, 15 mg.)

In sinusitis, colds, or U.R.I., Dimetapp lets congested patients breathe easy again. Each Extentab brings welcome relief all day or all night, usually without drowsiness or overstimulation. Its key to success? The Dimetapp formula—Dimetane (brompheniramine maleate), a potent antihistamine reported in one study to have elicited side effects as few as the placebo,\* teamed with decongestants phenylephrine and phenylpropanolamine—in a dependable 10- to 12-hour form.

Schiller, I. W., and Lowell, F. C.: New England J. Med. 261:478, 1959.

**Contraindications:** Patients hypersensitive to antihistamines. Not recommended for use during pregnancy.

**Precautions:** Until the patient's response has been determined, he should be cautioned against engaging in operations requiring alertness. Administer with care to patients with cardiac or peripheral vascular diseases or hypertension.

**Side Effects:** Hypersensitivity reactions including skin rashes, urticaria, hypotension and thrombocytopenia have been reported on

rare occasions. Drowsiness, lassitude, nausea, giddiness, dryness of the mouth, mydriasis, increased irritability or excitement may be encountered.

**Dosage:** 1 Extentab morning and evening, or as needed.

**Supplied:** Bottles of 100 and 500.

**Also available:** Dimetapp® Elixir for conventional *t.i.d.* or *q.i.d.* dosage. See package insert for further details.

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Generic prescribing allows a third party to choose for you. This does not of necessity ensure therapeutic effectiveness or lowest patient cost.

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# ACHROMYCIN® V

## TETRACYCLINE-LEDERLE

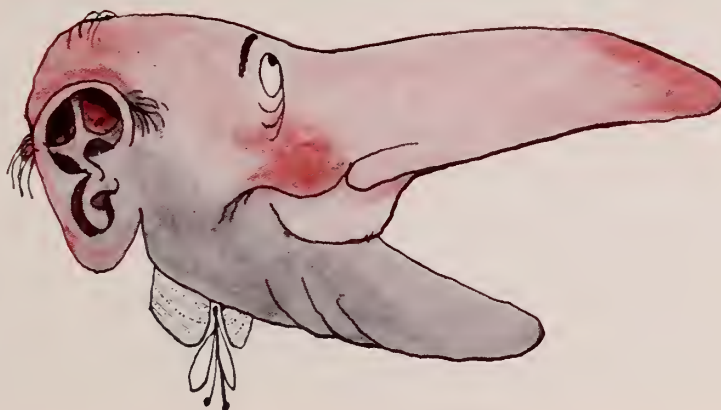


The Proof of Excellence is in the Performance



for noses of every description,  
one safe and sure prescription:

**Otrivin<sup>®</sup>**  
(xylometazoline CIBA)  
on Rx only



- quickly relieves congested nose
- action is gentle, yet prolonged
- side effects are minimal

INDICATION: Nasal congestion. CONTRAINDICATION: Do not use in patients sensitive to small doses of sympathomimetic substances. WARNINGS: Prolonged or excessive use may cause rebound congestion. Use cautiously in patients with hyperthyroidism, coronary artery disease, hypertension, and diabetes. CAUTION: Do not shake Nasal Spray. Rinse Nasal Solution dropper or Nasal Spray tip in hot water after each use. No more than one person should use the same dropper bottle or nasal spray.

SIDE EFFECTS: Occasional local reactions: rebound congestion, slight burning or stinging, sneezing, dry nose. Occasional systemic effects: headache, drowsiness, lightheadedness, insomnia, palpitations. Overdosage in young children may produce profound sedation. DOSAGE: **Adults:** Nasal Solution—2 or 3 drops in each nostril every 4 to 6 hours. Nasal Spray—Squeeze rapidly once or twice in each nostril every 4 to 6 hours. **Children under 12:** Pediatric Nasal Solution—2 or 3 drops in each nostril every 4 to 6 hours. One drop should be used

in infants under 6 months. *Pediatric Nasal Spray*—Squeeze rapidly once in each nostril holding tube upright; repeat every 4 hours as necessary. SUPPLIED: OTRIVIN<sup>®</sup> hydrochloride (xylometazoline hydrochloride CIBA) Nasal Solution, 0.1%; dropper bottles of 1 fluidounce, bottles of 1 pint. Nasal Spray, 0.1%; plastic squeeze tubes of 15 ml. Pediatric Nasal Solution, 0.05%; dropper bottles of 1 fluidounce. Pediatric Nasal Spray, 0.05%; plastic squeeze tubes of 15 ml. Nasal Solutions contain either 0.1% or 0.05% xylometazoline hydrochloride, triethanolamine, hydrochloric acid, sodium chloride, and phenylmercuric acetate 1:50,000 as preservative in water. Nasal Sprays contain either 0.1% or 0.05% xylometazoline hydrochloride, potassium phosphate monobasic, potassium chloride, sodium phosphate dibasic, sodium chloride, and benzalkonium chloride 1:5000 as preservative in water. Consult complete literature before prescribing. CIBA Pharmaceutical Company, Summit, N. J.

C I B A

Do your patients  
shell out too much  
for a diuretic?





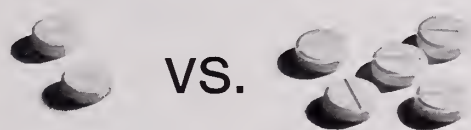
The answer may be yes... if they're not on Hygroton. For instance, a therapeutic dose of a short-acting diuretic may cost 3 times as much as an equivalent dose of Hygroton. With Hygroton, in fact, you can usually do the job with just one tablet a day or one every other day. It's no wonder that the trend has been away from short-acting, multiple-dose, high-cost diuretics.

You may hear that a short-acting diuretic was more effective in a 400 mg. (ten-tablet) dose than Hygroton in a 200 mg. (two-tablet) dose.

If one considers maximum recommended doses for each product, tablet for tablet Hygroton was clearly superior. Two tablets of Hygroton were found to produce almost 40% more natruresis and 20% more weight loss than five tablets of the other diuretic.\* Note that these are maximum recommended doses!

For effectiveness, economy, and convenience, therefore, Hygroton is the diuretic to choose to start with and the one to stay with.

\*Brest, A. N., et al.: J. New Drugs 5:329, 1965.



Natruresis above control values after maximum recommended doses (mEq./24 hours) in "normal" patients

111  
5 tablets short-acting  
nonthiazide diuretic

152  
2 tablets  
Hygroton

48-hour weight loss after maximum recommended doses in edematous patients with congestive heart failure due to arteriosclerotic or rheumatic heart disease

1.84 lbs.  
5 tablets short-acting  
nonthiazide diuretic

2.2 lbs.  
2 tablets  
Hygroton

**Indications:** Hypertension and many types of edema involving retention of salt and water.

**Contraindications:** Hypersensitivity and most cases of severe renal or hepatic disease.

**Warning:** With administration of enteric-coated potassium supplements, the possibility of small bowel lesions should be kept in mind.

**Precautions:** Reduce dosage of concomitant antihypertensive agents by at least one-half. Discontinue if the BUN rises or liver dysfunction is aggravated. Electrolyte imbalance and potassium depletion may occur; take special care in cirrhosis or severe ischemic heart disease, and in patients receiving corticosteroids, ACTH,

or digitalis. Salt restriction is not recommended.

**Side Effects:** Dizziness, weakness, nausea, vomiting, hyperglycemia, hyperuricemia, headache, muscle cramps, postural hypotension, constipation, leukopenia, thrombocytopenia, agranulocytosis, impotence, dysuria, transient myopia, skin reactions, including urticaria and purpura, epigastric pain, or G.I. symptoms after prolonged administration.

**Average Dosage:** One tablet (100 mg.) with breakfast daily or every other day.

**Availability:** Tablets of 100 mg. in bottles of 100 and 1000. For full details, see the complete prescribing information. 6524-V(B)

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# Wounds, abscess, cellulitis



# ...and the complications of staph.

## Staph reliably controlled with specific therapy



A suitable dosage form for every staph situation

From time of birth, the child is exposed to a whole range of potential staph infections: wounds; secondarily infected dermatoses; primary lesions, such as deep impetigo (ecthyma), boils and felons; and more serious conditions such as osteomyelitis, staph pneumonia and staph meningitis.

### Bactericidal

Hardly a staph organism can resist the bactericidal action of Prostaphlin® (sodium oxacillin), as shown by a 34-month *in vitro* study. Of all staph isolates tested, 99.5% were sensitive to oxacillin.<sup>1</sup>

### Clinically Proven

There is a high correlation between these *in vitro* findings and clinical results. Of 610 patients treated with Prostaphlin (sodium oxacillin), 89.8% were reported cured or improved, including those with staph infections resistant to penicillin G.<sup>2</sup> And since resistance does not appear to develop *in vivo*, therapy with oxacillin can be extended when necessary.

### Outstanding Safety Record

Besides being staph-specific and rapidly absorbed—Prostaphlin (sodium oxacillin) has established an outstanding record of safety during five years of widespread clinical use. Continuous high blood levels of oxacillin have not produced toxic effects on kidney function, assuring a significant margin of safety. However, as with all penicillins, the possibility of allergic response should be considered.

### Capsules, Oral Suspension and Injectable

Prostaphlin (sodium oxacillin) is available in three flexible dosage forms to suit the age of the patient and severity of infection—an oral solution for pediatric use, capsules, and multi-dose vials for injection.

**PRESCRIBING INFORMATION:** For complete information, consult Official Package Circular. **Indications:** Infections caused by Staphylococci, particularly those due to penicillin G-resistant Staphylococci. **Contraindications:** A history of severe allergic reactions to penicillin. **Precautions:** Typical penicillin-allergic reactions may occur. Safety for use in pregnancy and premature infants is not established. Because of limited experience, use cautiously and evaluate organ system function frequently in neonates. Mycotic or bacterial superinfections may occur. Assess renal, hematopoietic and hepatic function intermittently during long-term therapy. **Adverse Reactions:** Skin rashes, pruritus, urticaria, eosinophilia, nausea, vomiting, diarrhea, fever and occasional anaphylaxis. Rare cases of reversible hepatocellular dysfunction have occurred. Moderate SGOT elevations have been noted. Thrombophlebitis has occurred occasionally during intravenous therapy and leukopenia was noted in two cases. **Usual Oral Dosage:** Adults: 500 mg. q. 4 or q. 6 h. Children: 50 mg./Kg./day. **Usual Parenteral Dosage:** Adults: 250-500 mg. q. 4 or q. 6 h. Children: 50 mg./Kg./day. Treat beta-hemolytic streptococcal infections for at least 10 days. Give oral drug 1 to 2 hours before meals. **Supplied:** Capsules—250 and 500 mg. in bottles of 48. Injectable—250 mg., 500 mg., and 1 Gm. dry filled vial for I.M./I.V. use. For Oral Solution—100 ml. bottle, 250 mg./5 ml. when reconstituted.

**A.H.F.S. CATEGORY 8:12.16**

**References:** 1. Abstracted from *Antibiotic Sensitivity of Staphylococci Studied from November 1962 through August 1965*, reported by Griffith, L.J., Staphylococcus Reference Laboratory, V.A. Hospital, Batavia, N.Y. 2. Data on file, Bristol Laboratories.

**BRISTOL**

BRISTOL LABORATORIES/Division of Bristol-Myers Co., Syracuse, N.Y.

Whenever you  
suspect staph  
**PROSTAPHLIN®**  
SODIUM OXACILLIN



## The Mediatrix Age:

There is a growing senescent body of people on their way to malignant inactivity, who sorely need your interest and direction to help them back to a more active and useful life. There are medicines too, designed to help. One such has proved useful in clinical practice.

*"A steroid-nutritional compound (Mediatrix) was used in 100 patients to relieve some of the symptoms caused by degenerative changes of aging... This therapy resulted in improvement of 75 per cent of the patients..."*

McNeill, A. J.: Clin. Med. 8:518 (Mar.) 1961.

*"Mediatrix (steroid-nutritional compound) capsules, one a day, seem to give definite help to debilitated patients."*

Arnold, E. T., Jr.: Geriatrics 12:612 (Oct.) 1957.

*"Nutritional and hormone bolstering of function in the aged may have a useful place in geriatrics."*

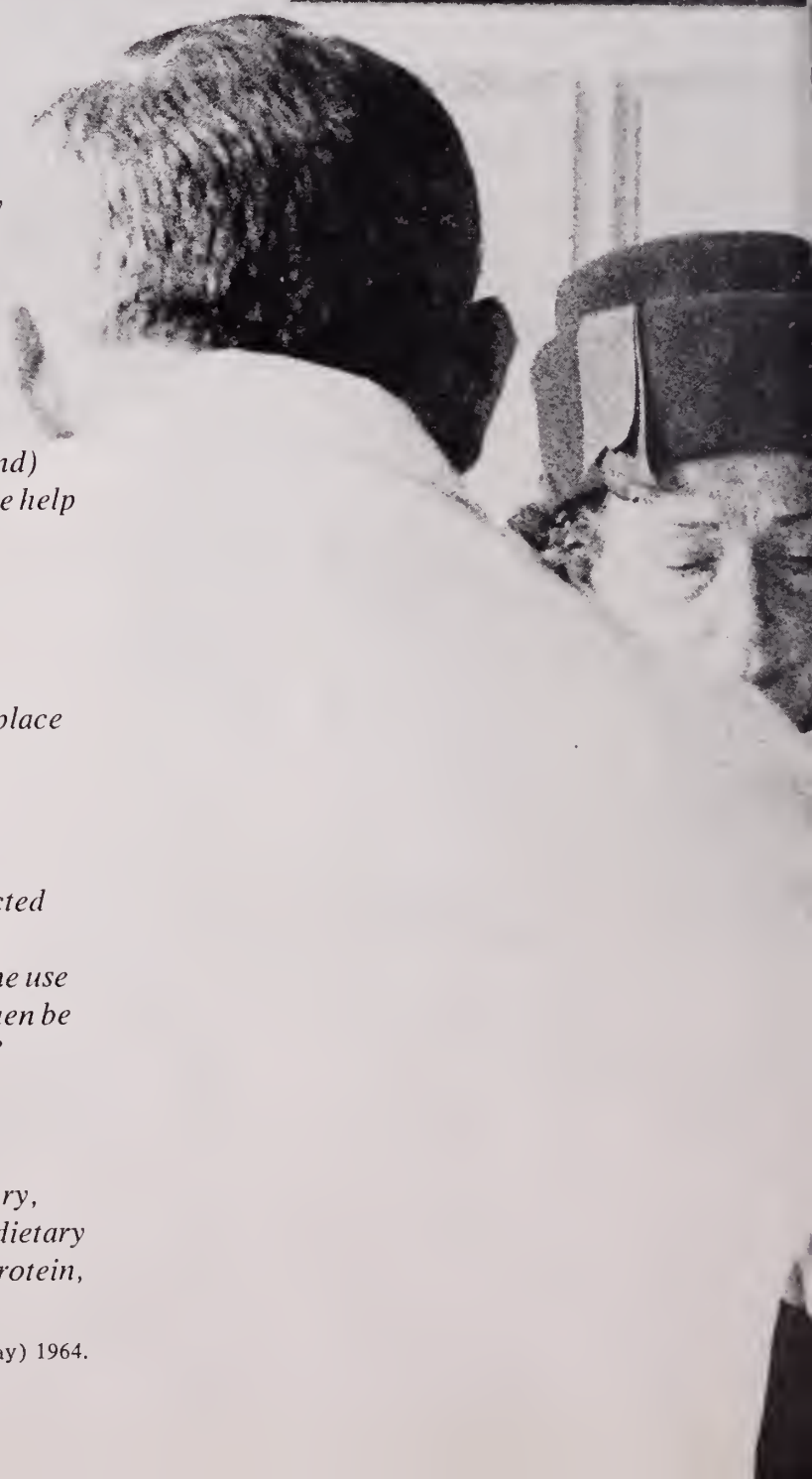
Morgan, A. F.: Gerontologist 2:77 (June) 1962.

*"In diets which for any reason are restricted in calories, enough of these substances (B vitamins) may not be supplied... The use of B and C vitamin supplements may then be justified and indeed may be necessary."*

Morgan, A. F.: Gerontologist 2:77 (June) 1962.

*"Intensive nutritional therapy is necessary, especially in elderly people, to correct dietary deficiencies created by large losses of protein, vitamins and other nutrients."*

Riccitelli, M. L.: J. Am. Geriatrics Soc. 12:489 (May) 1964.



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Nutritional reinforcement for those who can't  
—or won't—eat properly...balanced amounts of  
estrogen and androgen to counteract declining  
gonadal hormone secretion and its sequelae of  
premature degenerative changes...mild  
antidepressant for a gentle "mood" uplift...

The estrogen component in MEDIATRIC is PREMARIN® (conjugated estrogens—equine), the natural estrogen most widely prescribed for its superior physiologic and metabolic benefits.

MEDIATRIC also provides *nutritional reinforcement—blood-building factors and vitamin supplementation*. It contributes a gentle "mood" uplift through methamphetamine HCl.

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### MEDIATRIC Liquid

Each 15 cc. (3 teaspoonfuls) contains:

*Conjugated estrogens—equine (Premarin®) .....	0.25 mg.
Methyltestosterone .....	2.5 mg.
Thiamine HCl .....	5.0 mg.
Cyanocobalamin .....	1.5 mcg.
Methamphetamine HCl .....	1.0 mg.

Contains 15% alcohol

### MEDIATRIC Tablets and Capsules

Each MEDIATRIC Tablet or Capsule contains:

*Conjugated estrogens—equine (Premarin®) .....	0.25 mg.
Methyltestosterone .....	2.5 mg.
Ascorbic acid .....	100.0 mg.
Cyanocobalamin .....	2.5 mcg.
Intrinsic factor concentrate .....	8.0 mg.
Thiamine mononitrate .....	10.0 mg.
Riboflavin .....	5.0 mg.
Niacinamide .....	50.0 mg.
Pyridoxine HCl .....	3.0 mg.
Calc. pantothenate .....	20.0 mg.
Ferrous sulfate exsic. ....	30.0 mg.
Methamphetamine HCl .....	1.0 mg.

\*Orally active, water-soluble conjugated estrogens derived from pregnant mares' urine and standardized in terms of the weight of active, water-soluble estrogen content.

MEDIATRIC helps keep the older patient alert and active; helps relieve general malaise, easy fatigability, vague pains in the bones and joints, loss of appetite, and lack of interest usually associated with declining gonadal hormone secretion.

CONTRAINDICATION: Carcinoma of the prostate, due to methyltestosterone component.

WARNING: Some patients with pernicious anemia may not respond to treatment with the Tablets or Capsules, nor is cessation of response predictable. Periodic examinations and laboratory studies of pernicious anemia patients are essential and recommended.

SIDE EFFECTS: In addition to withdrawal bleeding, breast tenderness or hirsutism may occur.

SUGGESTED DOSAGES: *Male and female:* 3 teaspoonfuls of Liquid, 1 Tablet, or 1 Capsule, daily or as required.

*In the female:* To avoid continuous stimulation of breast and uterus, cyclic therapy is recommended (3 week regimen with 1 week rest period—Withdrawal bleeding may occur during this 1 week rest period).

*In the male:* A careful check should be made on the status of the prostate gland when therapy is given for protracted intervals.

SUPPLIED: No. 910 — MEDIATRIC Liquid, in bottles of 16 fluidounces and 1 gallon. No. 752 — MEDIATRIC Tablets, in bottles of 100 and 1,000. No. 252 — MEDIATRIC Capsules, in bottles of 30, 100, and 1,000.



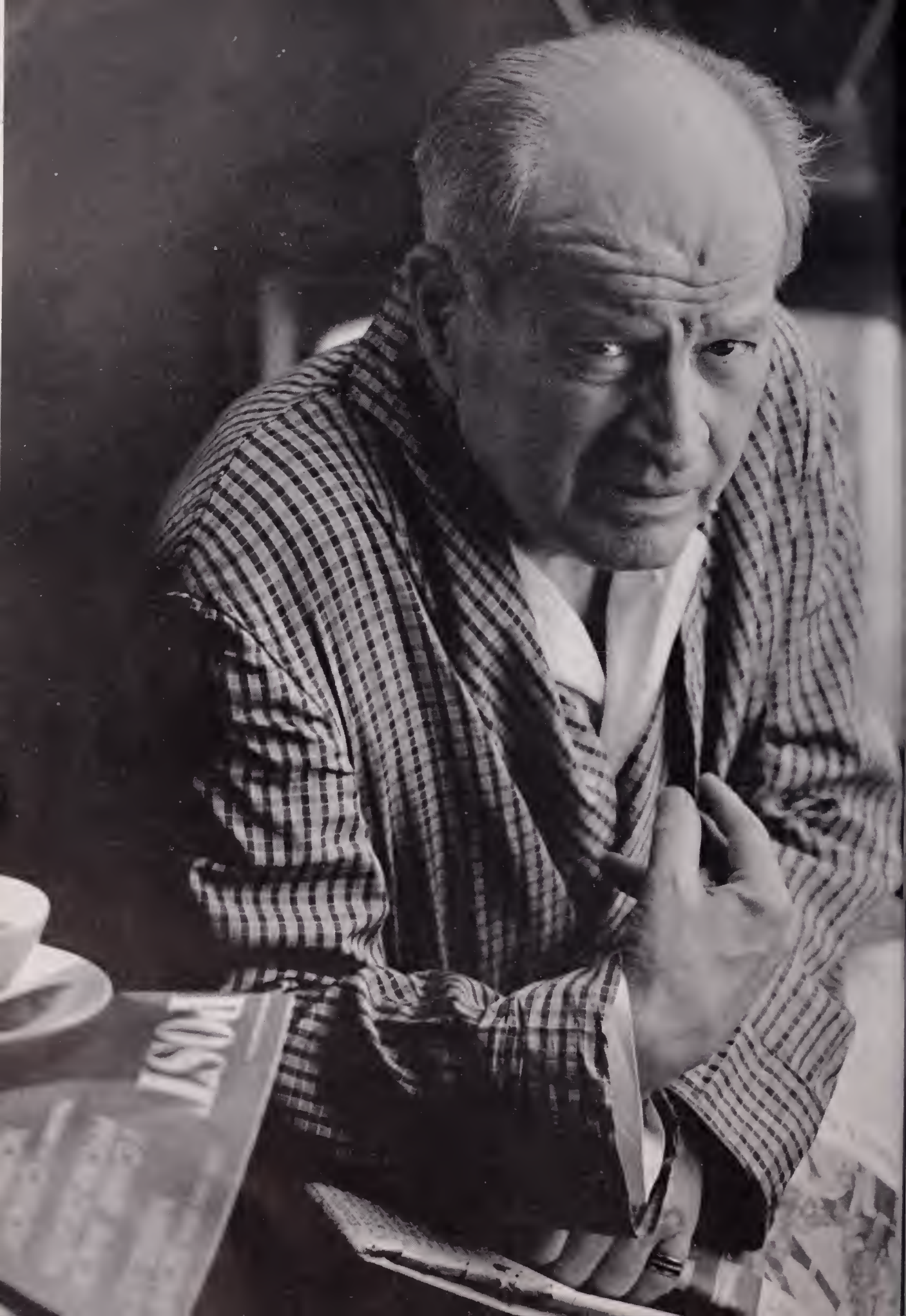
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# I'm supposed to get up and do things?

## With my heart?

It's entirely natural—and may even be desirable—for the cardiovascular patient to be somewhat anxious about himself.

But when anxiety leads to unreasonable self-imposed limitations and restrictions . . . when it aggravates cardiovascular symptoms . . . when it interferes with restful sleep, measures to help alleviate the anxiety are probably in order.

One measure, of course, is reassurance. Another, adjunctive measure, is EQUANIL (meprobamate).

Over a decade of experience has shown that EQUANIL (meprobamate) is generally well tolerated as well as effective. Side effects are usually limited to transient drowsiness; serious, therapy-interrupting side effects are rare.

**Cautions:** Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use may result in dependence or habituation in susceptible persons—as ex-addicts, alcoholics, severe psychoneurotics. After prolonged high dosage, drug should be withdrawn gradually to avoid possibly severe withdrawal reactions including epileptiform seizures. Side effects include drowsiness and, rarely, allergic or idiosyncratic reactions. These reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Mild reactions are characterized by urticarial or erythematous maculopapular rash. Acute non-thrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever have been reported. Meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioneurotic edema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. Warn patients of possible reduced alcohol tolerance. Should drowsiness, ataxia, or visual disturbances occur, dose

should be reduced. If symptoms persist, patients should not operate vehicles or dangerous machinery. A few cases of leukopenia, usually transient, have been reported following prolonged dosage. Other blood dyscrasias—aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis and hemolytic anemia—have occurred rarely, almost always in the presence of known toxic agents. One fatal case of bullous dermatitis following intermittent use of meprobamate with prednisolone has been reported. Prescribe very cautiously for patients with suicidal tendencies. Suicidal attempts should be treated with immediate gastric lavage and appropriate supportive therapy.

**Contraindications:** History of sensitivity to meprobamate.

**Composition:** Tablets, 200 mg. and 400 mg. meprobamate. Coated Tablets, WYSEALS® EQUANIL (meprobamate) 400 mg. Continuous-Release Capsules, EQUANIL L-A (meprobamate) 400 mg.

**American Hospital Formulary Service Category No. 28:16.08**

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to help relieve anxiety and tension occurring  
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## *Sexual Apathy! -- Among Physicians?*

**ARE YOU** neglecting your homework?

Several months ago at a national medical meeting a physician reported an alarming increase of sexual apathy in the American man. Perhaps it would be reasonable to assume this indictment is inclusive of a proportionate number of physicians. Of all classes of business and professional men, it has always seemed that the medical profession has had considerably less than its share of sexual apathetics (incorrectly used as a noun). Budding young physicians are probably not significantly different from their counterparts in accounting, dentistry, law or any other business or professional group; however, medical students have in some way acquired an unenviable reputation in this particular area. If apathy in sexual activity has indeed afflicted many physicians, it would not be an isolated disease. We are told that we are also becoming increasingly apathetic (here correctly used as an adjective) in areas of religion, civic commitment and political effort.

In this latter area it might be thought that the tremendous struggle entailed in Medicare would be of profound educational value to the medical profession. This apparently is almost completely incorrect. Observe the currently widespread attitude of relative indifference to political activity among most physicians. There may be some interest in local political considerations, although it seems there is less at the national level and perhaps least of all at the state level. Most physicians seem to have little recognition of the profound effects of the legislative activities at the state capitol. It is not because of the lack of educational efforts by organized medicine from the AMA down to the state and even local levels. We just don't listen.

It may sound as if I am a spokesman for AMPAC or OMPAC. I assure you that I am not although their objectives are sincerely supported by me. As physicians we have long been almost shamefully unaware of the

effects of political decisions as they affect us. We seem never to learn the importance of utilizing the political potential we possess by the virtue of our being physicians. Our elected officials almost never hear from us except in expressions of violent opposition to some proposed bill that would directly affect us. We have not learned to cultivate the acquaintance of our legislators as a primary method of building political influence. It may be inferred that I am a medical politician. Nothing could be further from the truth. But perhaps I can observe as well as most. While these views may deviate from those of the professional politician (or sexologist), they remain basically true.

Our legislators actually want to hear our viewpoints and not necessarily those concerning only medical issues. Would it be worthwhile for more of us to become acquainted with our governmental officials? You bet! Why not even invite some to dinner. Avoid asking favors and attempt to discuss *nothing* related to medicine. I am confident that this would favorably impress any politician. At some subsequent time perhaps a more receptive ear might be encountered when we do utilize our (currently underdeveloped) political influence.

The legislature is in session—now. Have you talked with one of your state or national representatives this year? Does he even know you exist? Consider doing him—and yourself—a favor. Get acquainted with him.

P.S. Sex lost out somewhere along the line. Perhaps this much neglect of sex in favor of a constructive thought will not constitute apathy.—*J. Murphree, M.D.* □

## *Health Intelligence Facility*

**IT IS** conservatively estimated that there are now twelve allied medical personnel for every physician. This is an increase from eight in just five short years. With over two million workers already in the health occupations ancillary to medicine, and with



every indication that the number will increase in the years to come, it is of utmost importance that all levels of medicine concern themselves with the training and education of these members of the health team.

It is reliably predicted that 10,000 new workers in the health field per month will be needed for at least the next ten years and this is in addition to replacement requirements.

As a further indication of the magnitude of the problem, in 1964, four per cent of the labor force in the United States was employed in the health services, making it the third largest employer behind construction and agriculture. By 1970-72, it is expected to be number one.

Health programs have been established more by popular demand and social planners' opinions than by health professional analysis and this has given a distorted picture in the area of health care. Out of these same opinions, there is a constant rise of expectations about what the medical community can provide. Congress, legislatures, and local groups establish programs and facilities based on the needed projections without taking into consideration who will provide them and how they will be provided. It must be realized that facility planning without personnel planning can be wasteful and tragic. Conversely, manpower needs for an area must be identified before training programs are developed. The training of workers should not outgrow the projected demand.

There are few yardsticks available to determine progress in raising the standards of health care for the populace, as well as improving the quality. In seeking clues to social changes and their accompanying medical involvement, the basic task is to be able to identify which aspects of privileges or advantage today will be demanded by everyone tomorrow. It is the diffusion of these rights, in terms of increasing numbers of well-qualified health manpower, that provides the clue to the kinds of health care demanded by the populace and its political representatives.

The overview of the health manpower problem should not be measured solely by the size of the population, but rather by the

dimensions of the actual health needs of the population. Demographic and other pertinent data are useful and needed as guides, but in determining the personnel requirements, there should be established the nature of the problem, the goal to be attained, and the number and type of personnel needed to reach the goal.

In the past, the medical profession has been ill-prepared to determine health manpower needs, establish goals, and measure performance. The manpower has been viewed as four large sections: (1) physicians, (2) dentists, (3) nurses, and (4) all other paramedical personnel. For accurate analysis of the manpower situation, the following information is necessary: How many physicians there are, what kind they are, and what they do; how many nurses there are, what kind they are, and what they do, etc. Also, how many physical therapists, social workers, and pharmacists are there among some 30 different paramedical occupations. These are all interrelated problems affected by a variety of social, economic, and scientific factors. Surprisingly, little is known about what today's health workers actually do, how they spend their time, how their functions mesh, and to what extent their training is used.

The basis of future planning, as well as for the immediate needs, will influence the number, distribution, and interaction of health manpower, and in turn, will have a bearing on the diffusion and change of the scale of qualifications and quality of medical care.

With the fact established "that health programs are skilled people at work," Doctor James L. Dennis, Director and Dean of the University of Oklahoma Medical Center, proposed "Project Responsibility" for Oklahoma. In cooperation with appropriate public and voluntary health agencies, Phase I of the program provides for a state-wide inventory of the health science personnel now serving the people of Oklahoma. The goal is to define state and community needs by (1) identification of number, kinds, ages, and locations of physicians and allied health science personnel now in the state, and (2) identification of the area of shortages, numbers, and kinds (where they are, where they are not, and who needs what). Phase II

provides for projection of current and anticipated needs based on (1) findings of the study, (2) needs and expectations of the public, (3) needs and expectations of the professions, (4) needs of the University, and (5) the social forces at work.

It is immediately apparent that there is a dearth of coordinated, uniformly interpreted health information data. This, in turn, impedes planning for health manpower of the future, as to the number, capacity, location, and curriculum of schools, colleges, and training centers, as well as the distribution and needs of the present and the future. It also hinders, and makes almost impossible, cooperative planning for health facilities and provisions for development and utilization among many of the official and voluntary agencies, hospitals, schools, and professional societies in any state. Unnecessary duplication of health information, studies and surveys, as well as easily avoidable gaps in state and national data, result from poor coordination of statistical efforts in health information, from lack of continuity in these efforts and from failure to develop a staff with expert knowledge of the associated problem. The tremendous advances in medical science and the growing demand for health services demand that attention be directed toward planning. It can be said that health problems are being both solved as well as created by scientific and technological progress on the one hand and social trends on the other. In this period of accelerated change, there is need for meaningful facts to guide future developments related to health. The community expects physicians, public health officials, and professional planners to exercise responsible leadership in planning for their health care.

To analyze health data intelligently, there are considerations other than the number and kind of manpower and facilities. These include economics of the area; demographic characteristics; diseases as to kinds, incidence and treatment, both as to how and where; social make-up and changes; vital statistics; and other related factors.

Therefore, a Health Intelligence Facility has been established as a cooperative endeavor between the University of Oklahoma and the Oklahoma Health Sciences Foundation (which is incorporated as a non-profit

foundation, organized for benevolent, charitable, educational, and scientific purposes) which have joined together in a mutual and cooperative agreement. However, its activities will not be directed by the parent organization, but by a 12-member Advisory Board. The Board will consist of representatives from associated organizations, such as the Oklahoma State Medical Association, Oklahoma Nurses Association, Oklahoma State Department of Health, Oklahoma Employment Security Commission, Oklahoma Department of Commerce and Industry, and the Oklahoma State Board of Regents for Higher Education. Mr. A. J. Haswell, Vice-President of Oklahoma Gas and Electric Company, serves as Chairman. The functions of this Advisory Board will be to determine the policies for the acquisition and use of information and to secure coordination of the efforts in order to establish the Health Intelligence Facility as an authoritative source of total health information for the state. The Advisory Board will formulate long-range plans for health information studies and analyses over and above the basic data. The purpose of these long-range plans will be to aid in the coordination of health study efforts. It will not attempt to restrict the study activities of any organization interested in the provision of health care.

The objectives are to establish a central authoritative source of state-wide health information. In accomplishing this, it will provide the results of collection and analysis of data as charts, notebooks, summary tables, and narrative reports of basic health statistics, in appropriate and accessible form. This will include, but will not be limited to such items as: (a) Present number of health workers by types, place of residence, activity status, educational training, and age. However, enumeration alone is not the whole answer. The distribution of physicians and other health workers is important. This is not limited to geographic distribution, but includes the distribution of physicians among various specialties and family practice. For example: Are there too few of one specialty and too many of another? Similar questions arise with respect to nurses, technicians, social workers, and therapists (b) Facilities for the provision of health care such as hospitals, rest homes, extended care facilities,



as to capacity and whether general or specialized (c) Facilities for training for health workers by types of workers, capability, annual productivity, etc. (d) Attrition rates during training for health workers (*i.e.* unfilled jobs for which money is allocated and available) by function and type of employer (e) economic data such as prepayment medical care, welfare medical care, etc. (f) Community services such as health and welfare organizations.

In addition, its objectives include serving as a central source of descriptive information about health manpower developments, demonstrations, survey, and studies conducted within the state.

The Facility can and will conduct, under grants and contracts from various sources, special health information surveys, studies, and demonstrations. The HIF will encourage, support, and carry out continuous, periodic, or single-time studies and surveys in order to meet local, state, and regional needs for health information, as well as offering consultations to other organizations conducting such projects.

The HIF will provide available data and, under separate contract, obtain additional data for organizations which have area, state-wide, or regional responsibility for planning for the health services. Since the basis for the cooperative HIF is the pooling of health information data, and not inter-agency planning for recruitment, education, training, utilization of personnel, and procurement of facilities, it will not be appropriate for the staff or Advisory Board to have planning functions, *per se*. Rather, it will serve as consultant for the planning agencies.

The means to accomplish these objectives is the gathering of certain basic data on individuals in the health manpower areas, obtained in cooperation with various organizations, boards, agencies, etc. These areas of manpower will include at least 32 categories, and all the data will be placed on computer. This will be up-dated continually

so that the data will remain current. The same will be true for facilities, economics, vital statistics, census data, etc. The data will be analyzed in varied ways and be made available on a city, county, or state basis, and regionally if feasible.

The permanent staff of the HIF will provide competency in statistics, survey design, elementary data processing, demonstration, and research in utilization of manpower and facilities. Consultant services will be obtained as necessary in other areas, such as economics, sociology, systems analysis, library science, etc.

Systematic analysis of such data may suggest possible courses of corrective action. So, what in effect, has been established, is a system of medical accounting and facts to broaden the concept of provision, distribution, educational requirement, and benefits in order to place economic and social influences into the overall accounting of medical care.

It would also facilitate the determination of the areas of greatest need by location of city and region and thus provide a basis for effective public policy. A series of community health indices would reveal how well we are meeting the needs of the people in regard to adequate medical care based on facts rather than fancies.

#### SUMMARY

Recognizing that planners of health care, including services, facilities, and manpower, have a common bond in their needs for much of the same information, the University of Oklahoma and the Oklahoma Health Sciences Foundation have established a Health Intelligence Facility whose purpose is to serve as a center for collection, dissemination, demonstrators, and consultants in the analysis of health information data. It is not a planning agency, *per se*, but will serve as a source of consultation for organizations, boards, or agencies, which are concerned with planning by means of providing reports which can be used as guides. □





Dear Doctor:

I am writing this "President's Page" as a personal letter to each individual physician who may chance to read it.

My subject is the Oklahoma Medical Political Action Committee . . . and my concern is for the future of our profession.

The next decade may find us working in a suffocating political atmosphere of involuntary servitude—discredited by our government, disenfranchised as individual citizens, and disillusioned with the calling which once challenged us to great efforts and filled us with such a gratifying sense of accomplishment.

There are those who say health is now a public utility, and the legislative arena is overrun by political opportunists who are playing havoc with the taxpayers funds and swamping our profession with myriad unneeded, unreasonable or unworkable health programs.

We still have friends in the legislative halls, of course, but they are too few in number to check the present tempo of unreasonable actions. Our lobbyists are working hard, but too many doors are closed to them.

There is a positive course of action we must take!

OMPAC provides a mechanism where we may unite behind political candidates whose integrities and political philosophies make them worthy of public trust. Our financial contributions can be focused on key races, and with concerted action we can either return good men to public office or replace those who have strayed beyond the bounds of propriety.

Teddy Roosevelt once said "The first requisite of a good citizen in this republic of ours is that he shall be able and willing to pull his own weight."

Although OMPAC membership rolls are at an all time high, hundreds of physicians are still not pulling their weights—are you one of them, doctor?

If so, let me test your readership of this "President's Page" and your leadership as a good citizen by inviting you to send your OMPAC dues to my office, 100 East 13th Street, Ada, Oklahoma.

Your contribution may range from the minimum annual dues of \$20 to the maximum of \$198.

Give 'till you feel good; make your check payable to "OMPAC."

Sincerely,

Ennis M. Gullatt, M.D.

Ennis M. Gullatt, M.D.

## The Diagnosis of Radiolucent Foreign Bodies in the Bronchi of Small Children

ETHAN A. WALKER, JR., M.D.

*Foreign bodies in the air passages of children are frequently very puzzling to the clinician. Prompt diagnosis is extremely important to the welfare and survival of the patient.*

THE ASPIRATION of a foreign object by a small child can be a catastrophic event. This may occur with so few symptoms and with so little notice by parents or associates of the child that it can present a puzzling problem in diagnosis. A child with minimal or obscure pulmonary symptoms may have a foreign body which can escape detection for many days, weeks, months, or in some cases, even years.

If the sojourn of a foreign body in the lower respiratory tract is too long, irrevocable and irreversible changes can take place to the life-long detriment of the patient.

### ETIOLOGY

Foreign bodies are encountered much more frequently in children than in adults. This is primarily due to the inquisitive habit that children have of placing strange objects in their mouths. According to one author,<sup>6</sup> 90 per cent of all foreign bodies occur in children below the age of three years. The same author states that 50 per cent of all

foreign bodies are non-opaque to radiography.

Carelessness on the part of adults is also an important factor.<sup>14</sup> Allowing small objects such as peanuts within the reach of small children is an invitation to this emergency.

Other factors which may contribute to the aspiration of foreign bodies are general anesthetics, unconsciousness, and subnormal mentality.<sup>9</sup>

A thorough history is important for the diagnosis of these problems. Usually the history is not volunteered by the patient or his parents and occasionally it may be obtained only after repeated interrogation by the physician has caused the parents to recall some incident which had faded from their memories. According to Miller, *et al.*,<sup>20</sup> a history of a choking episode while eating can usually be elicited. A high index of suspicion is the most valuable asset the physician can have in making such a diagnosis.

The possibility of a foreign body, the probability of its nature, and information concerning its location can often be obtained from the history according to McHenry.<sup>18</sup> Usually there is an episode of choking or coughing accompanied by some degree of respiratory distress. Often this is followed by an interval of two or three days without symptoms, during which the cough may disappear entirely only to recur later and become increasingly more persistent. In this later period the patient may develop coughing, wheezing and dyspnea produced by edema, infection and suppuration. The wheezing, when present, is best heard at the open mouth. The cough is usually flat and

From the Department of Otorhinolaryngology, Oklahoma City Clinic, Oklahoma City, Oklahoma.

nonproductive, and stridor may be present.

The work of Chevalier Jackson in pioneering the diagnosis of foreign bodies of the air and food passages as well as their removal has been eulogized many times and cannot be understated. Jackson first described the valve-like mechanisms by which foreign bodies of various sizes and shapes in different locations in the tracheobronchial passages produce a striking variety of clinical manifestations and disease processes, which increase the difficulty of diagnosis. He described three types of valves as follows:

1. *Stop valve*. A valve which allows no flow in either direction (figure 1).

2. *By-Pass valve*. With this there is partial obstruction and a diminished flow in each direction (figure 2).

3. *Check valve*. One in which there is flow in one direction only, namely during inspiration.

Jackson described three kinds of check valves:

- a) Ball valve (figure 3).
- b) The flapper valve (hinged) (figure 4).
- c) Expansile check valve, which is produced by the normal enlargement of the lumen of the bronchus on inspira-

tion and diminution in diameter of the lumen with expiration (figure 5).

The size, shape, location and nature of the foreign body contributes greatly to the type of valve mechanism which is produced in the individual patient, and the clinical picture produced by each valve mechanism differs from the others.

Most radiolucent foreign bodies are vegetable in origin and some of these, especially nuts, secrete oils which are especially irritating to the mucous membranes of the tracheobronchial tree. This mechanism was first described by Chevalier Jackson<sup>11</sup> and for it he coined the term "arachidic bronchitis." Holinger, *et al.*,<sup>8</sup> postulated that this is due to the unsaturated fatty acids in these oils which are extremely irritating to the bronchus and distal lung. The irritation produces inflammation and edema which may spread also to the remainder of the bronchi and lung, producing the confusing picture of a more diffuse disease.

#### STOP VALVE

With a stop valve type of obstruction, there is no passage of air, either on inspiration or

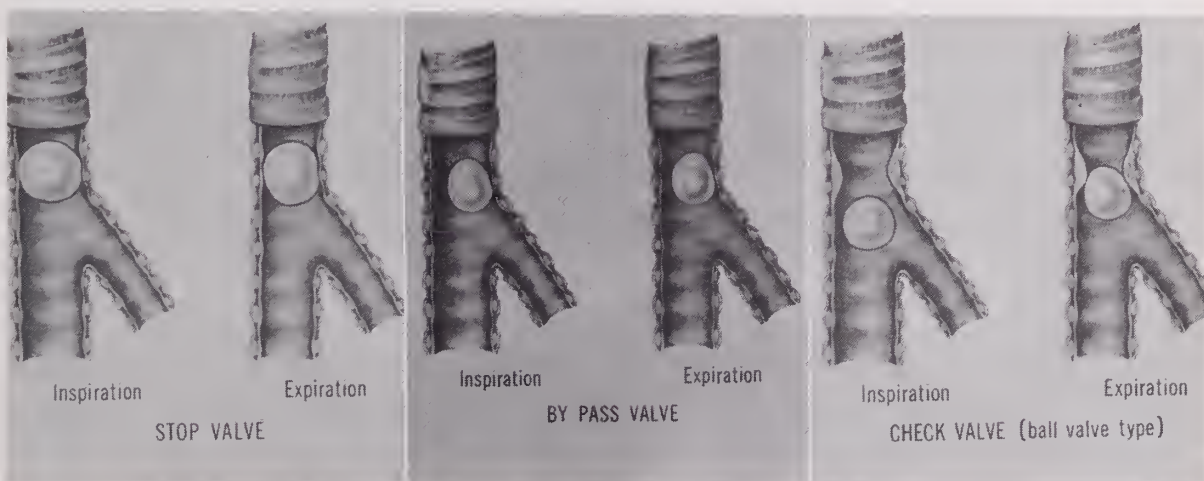


Figure 1

Figure 2

Figure 3

Figure 1. Stop Valve. This mechanism occurs when a foreign body completely obstructs a bronchus both on inspiration and expiration. There is no passage of air in either phase of respiration.

Figure 2. By-pass valve. This mechanism develops when a foreign body lodges in a bronchus but does not completely obstruct it during either inspiration or expiration. There is passage of air in both directions during both phases of respiration.

Figure 3. Check Valve (Ball Valve Type). This mechanism exists when a foreign body forms a seat proximal to the foreign body either by edema of the mucous membranes in the bronchial wall or due to thickened secretions on the bronchial wall. During inspiration the foreign body falls away from the valve seat and allows air to enter the portion of the bronchoalveolar system distal to the foreign body but during expiration the foreign body is forced to seat and air cannot be expelled.



# Foreign Bodies / WALKER

expiration beyond the obstructed point. Complete obstruction also may occur as a late development of one of the other types of valvular mechanisms as local swelling increases. However, when it occurs primarily with a foreign body, it usually occurs early and there is little or no latent or silent period following aspiration of the foreign body.

The symptoms vary in intensity or severity and depend on the amount of parenchymal lung which has been sealed off. If an entire lung is involved in this way, the sequence of events will be dramatic. However, if only a small segment is obstructed, the symptoms will be much less severe.

When complete obstruction occurs, air can neither enter nor leave an involved area. The air contained within the bronchi and alveoli distal to it is rapidly absorbed into the blood stream. The breath sounds are thus diminished or absent over the involved portion and the area is dull or flat to percussion while vocal fremitus is usually de-

creased or absent. If enough of the lung is involved, observation of the chest wall during respiration will reveal a diminished excursion on the involved side. The result is atelectasis.

Fluoroscopy and roentgenography of the chest will reveal lack of aeration of the obstructed lung. The intercostal spaces will be narrowed and the diaphragm will be elevated on the involved side. The heart and mediastinum will be shifted toward the involved side. During inspiration the heart and mediastinal structures will shift toward the diseased side and away from it during expiration but usually they remain displaced toward the involved side even during full expiration. Compensatory emphysema may occur in the opposite lung causing it to appear slightly more radiolucent than usual (figure 6).

## BY-PASS VALVE

When a foreign body lodges in the bronchial system in such a way as to produce a

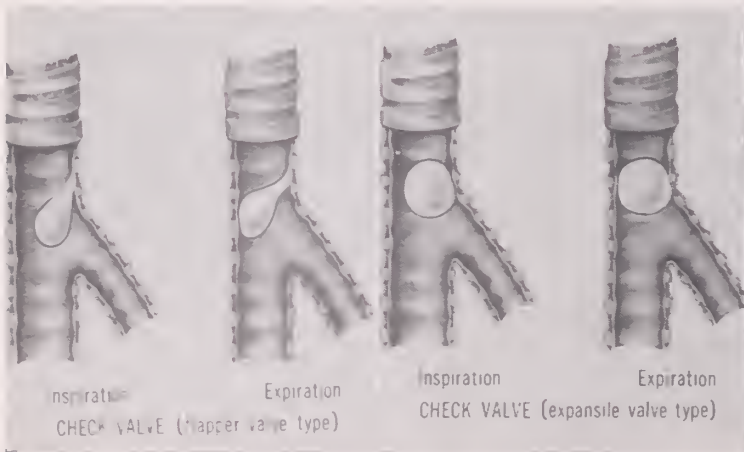


Figure 4

Figure 5

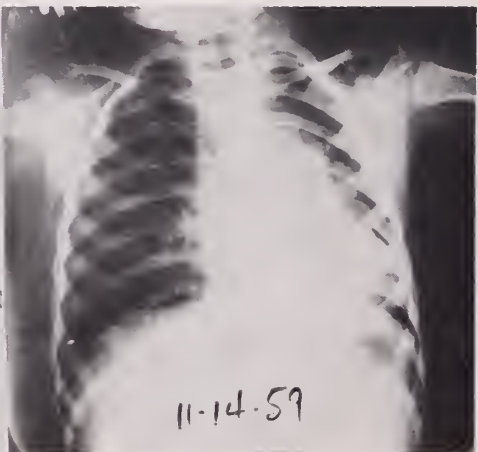


Figure 6

Figure 4. Check Valve (Flapper Valve Type). This mechanism exists with a pedunculated tumor or a thick plug of tenacious mucus or occasionally with a flat flexible foreign body. The flapper falls away during inspiration, allowing air to enter the bronchoalveolar system but seals off the distal bronchoalveolar system during expiration.

Figure 5. Check Valve (Expansile Valve Type). This mechanism exists because of the physiologic action of the bronchi. They dilate during inspiration so air can pass by the foreign body but constrict about the foreign body during expiration so the bronchial lumen is obstructed and air cannot exit.

Figure 6. This is the PA chest film of a 22-month-old Caucasian boy with a history of fever and cough three weeks before hospitalization. One day following admission to the hospital the parents recalled an instance where the child had choked while eating a peanut, just prior to the onset of illness. The radiograph reveals an obstructive atelectasis of the left lower lobe and a mediastinal shift to the left. There is compensatory emphysema of the right lung. The left diaphragm is elevated and there is narrowing of the intercostal spaces on the left. Note the deviation of the trachea to the left. A piece of peanut was removed from the left main bronchus. This represents a stop valve mechanism.

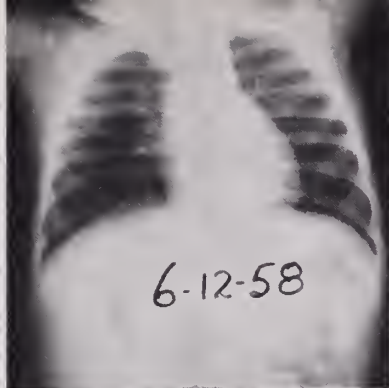


Figure 7

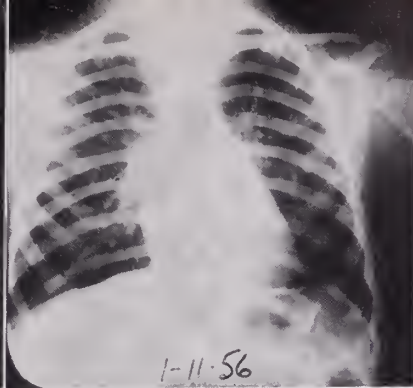


Figure 8

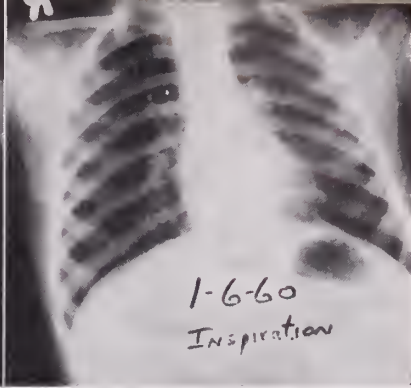


Figure 9

Figure 7. This nine-month-old Caucasian girl was admitted to the hospital with a history of choking episodes accompanied by cyanosis which occurred earlier on the day of admission. The radiographs are inconclusive but suggest mild hyperaeration of the right lower lobe. The following day there was suppression of breath sounds and a small amount of wheezing over the right lower chest. Fragments of a beetle were found in the right main bronchus. This is an example of a by-pass valve mechanism.

Figure 8. This 17-month-old Caucasian boy was admitted to the hospital with a history of having aspirated a piece of pecan on the day of admission. This was accompanied by a paroxysm of coughing. The radiograph is not diagnostic. The lung fields appear clear. A piece of pecan was removed from each main bronchus. This represents a bilateral by-pass valve mechanism.

Figures 9 and 10. This two-year-old Caucasian girl was admitted to the hospital with a history of having aspirated a foreign body the previous day. She had fever and a brassy cough at the time of admission. The inspiratory and expiratory films reveal a minimally shifted mediastinum. There is narrowing of the left intercostal spaces during inspiration and some obstructive emphysema of the left lung on expiration. A peanut was removed from the left main bronchus. This is an example of a check valve mechanism with obstructive emphysema.

by-pass valve mechanism, this allows the passage of air into and out of the portion of the bronchial tree and alveoli distal to the foreign body but the flow is diminished in each direction. Most foreign bodies which produce by-pass valve mechanisms are of irregular shape so it is not possible for the foreign body to occlude the bronchus completely, either during inspiration or expiration, until pronounced edema occurs or thickened secretions have accumulated later in the course of the disease.

The symptoms produced by a by-pass valve mechanism may be very slight and can range from no symptoms at all, especially during the early sojourn of the foreign body, to a dry, hacking cough, asthmatic wheezing on auscultation and occasionally audible wheezing at the open mouth.

With fluoroscopy and roentgenography of the chest, there may be no positive radiographic findings unless the obstruction is nearly complete and the amount of air which passes by the foreign body is very small.

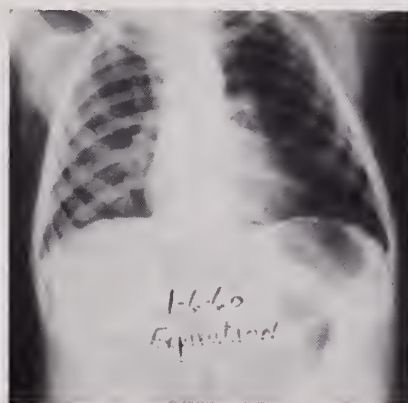


Figure 10

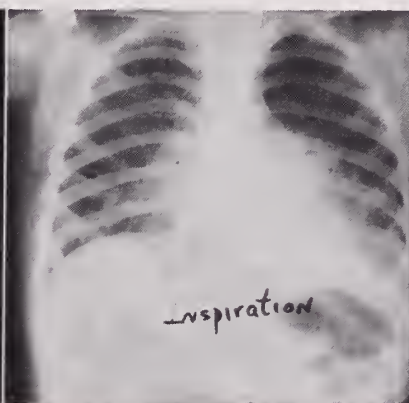


Figure 11

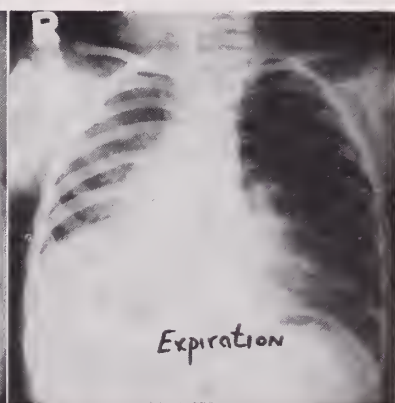


Figure 12

Figures 11 and 12. This one-year-old Caucasian boy was admitted to the hospital with a history of cough and fever for one week. The radiograph reveals atelectasis of the left lower lobe with associated pneumonia. There is compensatory emphysema of the remaining portions of the left lung with mediastinal shift to the right side during expiration. Three pieces of peanut were removed from the left main bronchus. The atelectatic portions of this lung demonstrate a stop valve mechanism while the remaining portion of the left lung is characteristic of a check valve mechanism.



## *Foreign Bodies* / WALKER

Fluoroscopy of this patient may demonstrate a lag in the ability of the involved parenchyma to empty during expiration.

Such foreign bodies are difficult to diagnose, especially when no history suggestive of the aspiration of a foreign body can be obtained. They can so thoroughly mimic bronchial asthma that they completely obscure the diagnosis and one must keep in mind the early dictum of Chevalier Jackson that "all that wheezes is not asthma." The child who develops all the signs and symptoms of asthma but without a prior history of asthma must be considered to have a foreign body with a by-pass valve mechanism (figures 7 and 8).

### CHECK VALVE

Check valves allow the flow of air in one direction only and this during inspiration. During expiration the valve is seated and the air trapped in the bronchi and parenchyma distal to the foreign body does not move.

As Jackson observed, the ball type of check valve and the flapper type of check valve have close analogies in machinery. However, the expansile type of check valve is not found in machinery, but is limited to foreign bodies in the bronchi.

The ball valve type of obstruction occurs when a foreign body has been aspirated and edema of the mucosa has occurred just proximal to the foreign body, sufficient to produce a valve seat against which the foreign body lodges during expiration. During inspiration the foreign body falls away from this seat and air flows into the distal bronchi while during expiration the valve seats and air trapped in the bronchoalveolar system is not expelled.

The flapper type of valve usually occurs with a pedunculated tumor attached to one wall of a bronchus or with a mass of tenacious mucus. However, it can occur also with such foreign bodies as a small piece of poorly cooked bacon or other flat, flexible material.

The expansile valve is possible because of the physiologic function of the bronchus. During inspiration the bronchus expands

and with expiration it constricts. This allows a foreign body of proper size and shape to completely obstruct during expiration but to permit ingress of air during inspiration when dilation occurs.

As with the stop valve, the symptoms of a check valve obstruction vary in severity depending on the amount of parenchymal lung distal to the obstruction. With air able to enter the obstructed portion of the lung but being unable to exit from it, the patient develops a condition known as obstructive emphysema since more air comes in as the residual is absorbed.

Physical examination reveals diminished breath sounds on the involved side and the area may become slightly hyperresonant to percussion. Also, on percussion the heart and mediastinal structures are shifted away from the involved side.

The symptoms consist of mild to moderate dyspnea; the cough is usually dry and brassy.

Roentgenographic examination reveals hyperaeration of the involved parenchyma. The heart and mediastinal structures will be shifted away from the involved side, especially with expiration and tending to shift back closer to the midline during inspiration. The intercostal spaces will be widened on the involved side. The diaphragm will be depressed on the involved side and flattened, and its excursion will be diminished during respiration in contrast to the free movement of the diaphragm seen in compensatory emphysema when there is atelectasis in the opposite lung (figures 9 to 12).

### COMPLICATIONS

The sequence of events following the lodging of a foreign body in the bronchus may

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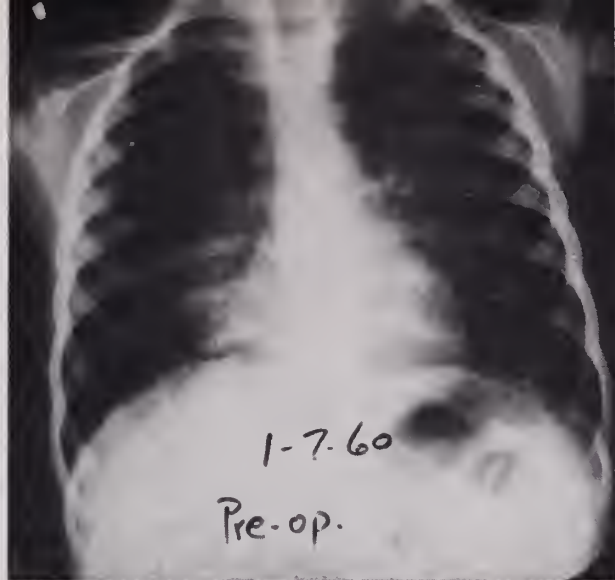


Figure 13



Figure 14

Figure 13. This 23-month-old Caucasian boy was admitted to the hospital with a diagnosis of probable foreign body. The radiographs reveal localized bronchopneumonia of the right lower lobe adjacent to the right border of the heart. A peanut was removed from the right lower lobe bronchus. This complication is common when the foreign body is a nut containing oil.

Figure 14. This two-year-old Caucasian boy was hospitalized with a history of chronic pulmonary disease. A PA radiograph reveals pneumonia, consolidation and atelectasis of the right lower lobe. Bronchoscopy revealed suppurative disease of the right lower and middle lobes but no evidence of a foreign body. This bronchogram reveals a normal bronchial system on the left but a severely diseased bronchial system on the right with saccular bronchiectasis of the right middle and lower lobes. A right middle and lower lobectomy was performed and two foxtail grass heads were found blocking the bronchi in the right lower lobe. Later, the father recalled that the child had choked on some grass one year previously. This is representative of advanced disease due to a foreign body which has had a long sojourn.

occur rapidly or very slowly, depending on the amount and degree of obstruction, as outlined previously.

**Bronchitis** This complication usually occurs within a few hours or days after aspiration of the foreign body. It occurs earlier with some foreign bodies, such as nuts, as previously mentioned, due to the irritating effect of the oils. The cough which accompanies this bronchitis is at first dry, gradually becoming productive.

**Bronchopneumonia** This complication often produces a diffuse picture and eventually may involve the open sections of the lung as well as those which are obstructed. The former results from scattered secretions (figure 13).

**Pneumonia** This complication develops as a result of atelectasis or from the gravitating secretions of a foreign body. Fever will be present. There is dullness or flatness to percussion over the involved area. Vocal fremitus is increased unless the bronchus is completely obstructed in which case it is decreased or absent. Breath sounds are diminished or absent early, but later with consolidation they become tubular or accentu-

ated. Typically increased density is present on roentgenography.

**Pulmonary Abscess** This complication occurs as a result of long-standing atelectasis or it may occur earlier if the foreign body reaches a weak-walled bronchus.<sup>13</sup>

**Bronchiectasis** This occurs as a result of suppuration from a foreign body which has had a long sojourn. It is the frequent end result of a grass burr which has been aspirated into a bronchus but it may occur as a result of any foreign body (figure 14).

**Subcutaneous Emphysema** This complication, according to Richards,<sup>24</sup> is rare and results from obstructive emphysema which produces an increase in alveolar pressure. This, in turn, can produce bullae beneath the visceral pleura with rupture and leakage of air through the hilus into the mediastinum and from there into the subcutaneous tissues of the neck. Mediastinal emphysema precedes the development of subcutaneous emphysema.

**Hemorrhage** This complication is rarely reported. Barnes, *et al.*,<sup>2</sup> reported this complication from aspiration of a piece of glass. It also can occur concomitant with develop-

## Foreign Bodies / WALKER

ment of bronchiectasis late in the course of the disease.

### DISCUSSION

The diagnosis of foreign bodies in the bronchi is not always easy. A good history is of utmost importance in establishing a suspicion of a foreign body and its possible character. It is extremely important that the physician be constantly aware of the possibility of a foreign body and alert to its means of diagnosis. Lack of attention to history may lead to prolonged illness (McHenry).<sup>18</sup>

Foreign bodies in the bronchi are frequently overlooked because of improper roentgenographic examination. Inspiratory and expiratory films are extremely valuable, as is competent fluoroscopy. Welin<sup>27</sup> has recommended the use of "hard films" for further evaluation of the patient with a suspected foreign body. He states that with this technique and owing to the air content of the bronchial lumina, the bronchi may be studied in these roentgenograms and an air bronchogram thus obtained. The foreign bodies sometimes appear as positive shadows against the air column of the bronchi and will sometimes produce a characteristic interruption of the bronchial lumen.

### CONCLUSIONS

1. Foreign bodies in the bronchi are frequently not recognized for a considerable time due to inability to obtain a complete history, a low index of suspicion, confusing physical and roentgenographic findings or from inadequate physical or roentgenographic examination.

2. Any child with dyspnea or wheezing should be considered to have aspirated a foreign body.

3. A child who develops asthma without a history of allergy or previous attacks should have roentgenographic examination of the chest to rule out foreign bodies.

4. Children under the age of six years should not be allowed to eat nuts or similar foods because of the possibility of aspiration. Permanent first molar teeth do not erupt

until this age and chewing habits are not well established before this time. There is a difference in the hazard of eating while sitting down and while active and playing. Most aspirations of foreign bodies occur during activity.

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# Aspirin-Induced Bronchial Asthma

FLOYD F. MILLER, M.D.

*Although aspirin is usually considered a rather safe drug, it may induce severe bronchial asthma in the sensitive patient.*

OVER 5,000 TONS of aspirin are consumed in the United States each year.<sup>1</sup> Despite the apparent relative safety of this drug, it is well known that certain individuals are hypersensitive to it. The most common manifestations of aspirin allergy are urticaria and angioedema, erythema multiforme, rhinitis, and asthma.<sup>2</sup> Although most clinicians are aware of the skin lesions which may be induced by allergy to aspirin, many are not so cognizant of the respiratory manifestations.

Asthma due to aspirin is often severe, protracted and may lead to unconsciousness or even death.<sup>2</sup> The dyspnea most often occurs approximately 20 minutes after taking aspirin, but it may occur within a few minutes or as long as two hours later. This reaction to aspirin may be the first manifestation of allergy observed by the patient, or it may occur in patients with pre-existing asthma. The dyspnea after taking aspirin is often described as more severe and more difficult to relieve than with the usual asthma. The air exchange may be so minimal that no wheezes are heard, and the diagnosis of congestive heart failure may be entertained. Salvaggio and associates<sup>3</sup> recently reported

such a case wherein a correct diagnosis of bronchial constriction was established by aspirin-challenge and appropriate pulmonary function studies.

## PATIENTS WITH ASPIRIN-INDUCED BRONCHIAL ASTHMA

Twenty-two patients with aspirin sensitivity resulting in bronchial asthma have been treated over the past four years (table I). Some other patients had angioedema and a feeling of inability to get their breath, but they were not included because it was felt that this represented edema of the respiratory tract or hyperventilation rather than bronchospasm. The majority of these 22 patients (73 per cent) were females. The earliest age of aspirin-induced asthma encountered was 17 years. Aspirin sensitivity occurred in only three patients who had any asthma before they were 25. The average age of onset of asthma in these patients was 35, and the average age of onset of aspirin sensitivity was 40.

Aspirin was responsible for the first asthma in at least six of the 22 asthmatics, and aspirin sensitivity developed in six others within a few days or weeks after the onset of their asthma. Three have had asthma only after taking aspirin. The others also have had asthma due to other factors, although a few do not have positive allergy skin tests.

Only three patients had urticaria or angioedema accompanying definite bronchospasm. None of the others had associated skin lesions.

Table I  
Patients With Aspirin-Induced Bronchial Asthma

PATIENT	SEX	AGE	AGE AT ONSET OF OTHER ASTHMA	AGE AT ONSET OF ASPIRIN ALLERGY	PRESENCE OF POLYPS
ES	F	24	17	17*	Yes
JG	F	25	2(21)**	21	Yes
VS	F	22	—	17***	No
GN	M	29	27	27	Yes
RR	F	30	26	26*	Yes
EN	F	30	27	29	Yes
JM	M	31	30	29*	No
AP	F	33	22	23	Yes
EP	F	37	27	27	Yes
CB	M	42	37	42	No
MW	F	43	28	28*	Yes
YM	F	43	40	40*	Yes
AS	M	50	38	38*	Yes
RH	M	52	50	50	Yes
MT	F	54	44	46	Yes
OK	F	59	39	48	Yes
DN	F	62	61	61	Yes
WD	F	63	—	59***	Yes
LR	F	65	—	63***	Yes
EB	F	66	64	64	No
AR	F	68	48	52	Yes
RT	M	70	62	69	Yes

\*Asthma from aspirin occurred first

\*\*Asthma at age 2 with no further asthma until age 21

\*\*\*Asthma only after aspirin

Nasal polyps were present in 18 of the 22 patients. These were usually large and easily visualized, and polypectomies were required in approximately one-third of the cases. The polyps frequently occurred years before the onset of the aspirin sensitivity, but they may be present only shortly before or after the onset of aspirin-induced disease.

#### DISCUSSION

Of particular interest is the association of nasal polyps with asthma due to aspirin. In two previous reports, 26 of 49 patients (53 per cent) had nasal polyps.<sup>2, 4</sup> In another series of 45 patients, nasal surgery had been performed on 30 with the majority of the operative procedures consisting of polypectomies.<sup>5</sup> Eighteen of our 22 patients had nasal polyps, but the reason for this association is not known.

The incidence of aspirin sensitivity in asthmatics is difficult to establish. Van Leeuwen<sup>6</sup> estimated that approximately ten per cent of all asthmatics are specifically allergic to aspirin, but Prickman and Buchstein<sup>1</sup> felt this estimate was too high. Walton and Bottomley<sup>7</sup> in Canada reviewed 830 suc-

cessive cases of asthma and found definite aspirin sensitivity in 3.5 per cent of the adults. Gardner and Blanton<sup>8</sup> surveyed a group of allergists in this country concerning the incidence of aspirin sensitivity, and the combined estimate was approximately 0.2 per cent.

Shelley stated that aspirin sensitivity is truly salicylate sensitivity.<sup>9</sup> However, others have observed that most patients who are aspirin sensitive may take other salicylates without difficulty.<sup>2, 10</sup> The author has given sodium salicylate to patients who have severe asthma after taking aspirin and no symptoms were induced. However, some aspirin-sensitive patients also have had untoward re-

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actions to phenacetin.<sup>5</sup> Weiner and associates<sup>11</sup> postulated that individuals clinically allergic to aspirin but not to other salicylates may be sensitive to components or metabolic products other than the salicylate moiety of aspirin.

## DIAGNOSIS OF ASPIRIN SENSITIVITY

The diagnosis of asthma due to aspirin is not difficult if a reliable history of severe asthma after taking aspirin is obtained. The patient may not associate the asthma with aspirin until it has occurred on two or three occasions, and often specific interrogation concerning the use of aspirin-containing products is required. The aspirin may be hidden in combination-type analgesics, hay fever medications, or "cold tablets." Challenging a patient with aspirin may induce severe asthma which may lead to unconsciousness or even death. Duke<sup>12</sup> has suggested that the patient place a small granule of aspirin on the tongue, and that he rinse his mouth immediately with a dilute solution of vinegar should symptoms occur. The vinegar would reduce the absorption of any remaining traces of aspirin. However, this test also is not without danger.

Skin tests to aspirin do not elicit significant skin reactions but they may induce severe asthma. Mathews and associates<sup>2</sup> used sera from persons receiving large amounts of aspirin to see if antibodies against an aspirin-serum protein complex could be demonstrated, but no positive skin tests were found.

Shelley<sup>9</sup> has reported positive basophile degranulation in aspirin-sensitive patients. However, a large series of aspirin-induced asthmatics has not been investigated by this technique, and the incidence of false negatives has yet to be established in this group.

A careful history remains the most reliable diagnostic tool.

## POSSIBLE MECHANISMS OF ASPIRIN HYPERSENSITIVITY

Neither circulating nor cellular antibodies to aspirin have been detected by any of the *in vitro* or *in vivo* techniques. Hemagglutinating antibodies were not found in aspirin sensitive patients when unconjugated as-

pirin was used as the antigen.<sup>13</sup> Weiner, Rosenblatt, and Howes<sup>11</sup> have sensitized guinea pigs with protein conjugates of halogenated aspirin, and they were also able to stimulate antibody production in rabbits. In addition, hemagglutinating antibodies were found in some of the aspirin-sensitive patients when this conjugate was used as the antigen. However, the authors felt that the antigen actually was the salicylate moiety rather than acetylsalicylic acid, since it was likely that the acetyl group had been destroyed during the complexing.

Samter and Beers<sup>10</sup> believe intolerance to aspirin is not an immunologic phenomenon. They suggest that aspirin has a direct effect on hyperreactive receptors which mediate bronchoconstriction, mucus secretion, and capillary permeability. The acetylcholinesterase system may be involved, but they have been unable to demonstrate *in vitro* that aspirin inhibits acetylcholinesterase in erythrocytes.

Further research is required to determine whether aspirin hypersensitivity is an immunologic or aberrant pharmacologic response.

## SUMMARY

Aspirin sensitivity may result in severe bronchial asthma. The victim is usually a female, has large nasal polyps, and is at least 30 years old. The mechanism of hypersensitivity has not been established. No standard *in vitro* or *in vivo* procedures are available to confirm the diagnosis consistently. □

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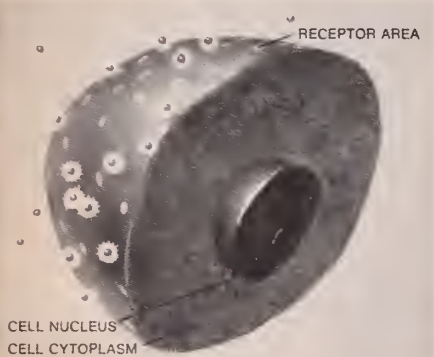
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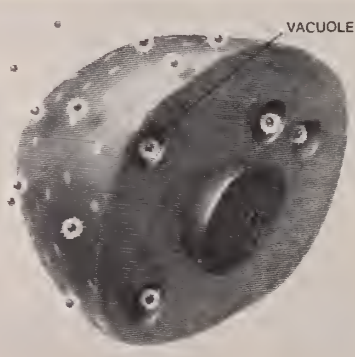
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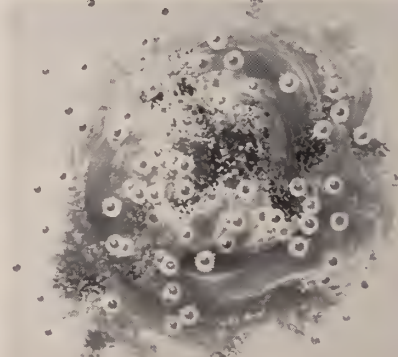
### How the influenza virus invades and destroys the untreated cell



1 Viruses outside the cell attach themselves to specific cell receptor areas

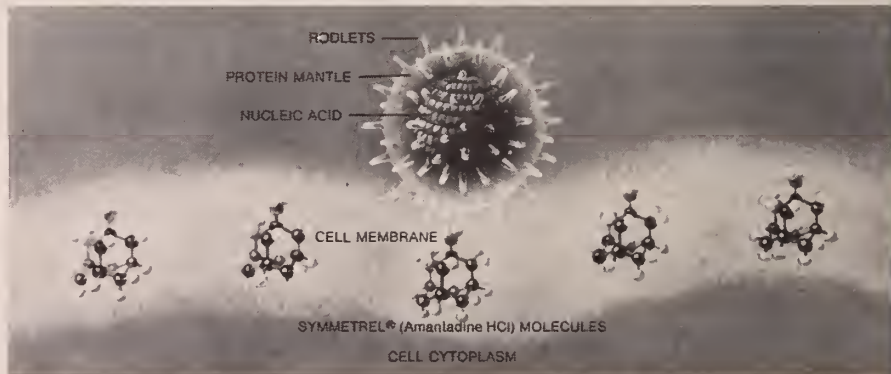
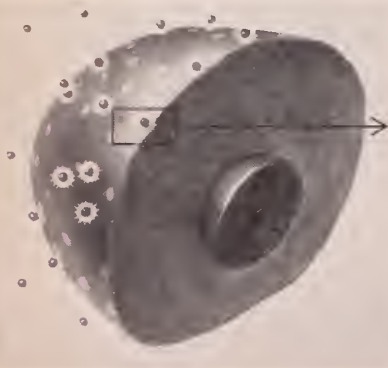


2 The virus is incorporated into a vacuole within the cell. From this vacuole the virus nucleic acid passes into the cell cytoplasm



3 The virus nucleic acid then directs the cell to produce both new virus nucleic acid and virus protein coat material which aggregate to form new virus particles. This process leads to the release of new virus particles and eventual destruction of the cell

### How Symmetrel® (Amantadine HCl) prevents virus invasion<sup>1</sup>



Our current knowledge leads us to believe "Symmetrel" acts as a molecular barrier to influenza virus penetration. Shown here in a greatly enlarged section, "Symmetrel"—located at the cellular membrane—effectively prevents (blocks) virus penetration. Thus, "Symmetrel" does not directly destroy the virus particle but acting as a virostat prevents the cycle of virus penetration, virus replication, and cell destruction that is characteristic of virus invasion of animal cells (tissue). *Artist's conception based on current scientific knowledge.*

1. "Mode of Action of the Antiviral Activity of Amantadine in Tissue Culture", Hoffmann, C. E.; Neumayer, E. M.; Haff, R. F.; and Goldsby, R. A., *Journal of Bacteriology* 90,623 (1965).



**Safety of Symmetrel® Confirmed.** When used as indicated, is generally well tolerated. No kidney, liver, bone marrow, or hematological disturbances have been observed.

## Prescribing Information

**Indications:** "Symmetrel" is indicated for the prevention (prophylaxis) of influenza A<sub>2</sub> in persons of all age groups. Early use is recommended, preferably before or as soon as possible after actual or suspected contact with individuals suffering from influenza A<sub>2</sub>. "Symmetrel" should especially be considered for high influenza-risk patient groups such as those suffering from chronic debilitating diseases and elderly persons.

**Contraindications:** Not indicated for the prevention of influenzal or respiratory illness other than influenza A<sub>2</sub> or for the treatment of established disease.

**Warnings:** Administration to patients with central nervous system disease, particularly geriatric patients with cerebral arteriosclerosis, and patients with a history of epilepsy or other "seizures," requires strict observation for possible untoward effects (see Adverse Reactions). Patients taking psychopharmacologic drugs, central nervous system stimulants, or alcoholic beverages should be observed for possible evidence of intolerance. Those patients who experience central nervous system effects or blurring of vision should be cautioned against driving or working in situations where alertness is important.

No teratogenic effects have been seen in reproductive studies in rats and rabbits. Studies in pregnant women have, however, not been done and use of this drug in women of childbearing age should be undertaken only after weighing the possible risks to the fetus against benefit to the pregnant patient. It should not be administered to nursing mothers since it is not known whether the drug is secreted in the milk.

**Precautions:** Ineffective against bacterial infections. Patients should be observed for idiosyncratic reactions as with all new drugs. Geriatric patients with pre-existing serious medical illnesses with mental or physical deterioration should be followed carefully medically while taking "Symmetrel." (See Adverse Reactions.)

**Adverse Reactions:** With higher than indicated doses manifestations of central nervous system effects such

as nervousness, insomnia, dizziness, lightheadedness, drunken feeling, slurred speech, ataxia, inability to concentrate and some psychic reactions including depression and feelings of detachment were seen. Occasional blurred vision was reported at higher doses. Some of the milder and less pronounced symptoms above have been reported in a small number of patients taking the recommended dosage of 200 mg per day. Those were mostly transient and disappeared with continued administration of the drug. Some geriatric patients developed paranoid or hallucinatory behavior and became unmanageable while taking 200 mg daily. Medically unselected seriously deteriorated geriatric patients showed poor clinical tolerance after several weeks of daily dosing with 200 mg per day. One elderly patient with a history of prior cerebrovascular accident developed visual hallucinations and grand-mal convulsions while on drug at 800 mg per day. Some cases of dry mouth, gastrointestinal upset and skin rash and rarely, tremors, anorexia, pollakiuria, and nocturia have been also reported.

**Safety:** When used as indicated, is generally well tolerated. No kidney, liver, bone marrow, or hematological disturbances have been observed.

**Dosage:** *Adults:* Two 100 mg capsules (or 4 teaspoonfuls of syrup) as a single daily dose or the daily dose may be divided into one capsule of 100 mg (or 2 teaspoonfuls of syrup) twice a day.

*Children:* 1 yr.—9 yrs. of age: Calculate total daily dose on the basis of 2 mg to 4 mg per pound of body weight per day (but not to exceed 150 mg per day). Daily dose, given as the syrup, should be given in 2 or 3 equal portions.

9 yrs.—12 yrs. of age: Total daily dose 200 mg given as one capsule of 100 mg (or 2 teaspoonfuls of syrup) twice a day.

**How Supplied:** *Capsules:* Bottles of 100. Each red, gelatin capsule contains 100 mg amantadine HCl.

*Syrup:* Bottles of 1 pint. Each 5 ml (1 teaspoonful) contains 50 mg amantadine HCl.



**Symmetrel®**  
(Amantadine HCl)

**A molecular barrier to virus penetration**





**NEW EVIDENCE:**

**Pro-Banthine<sup>®</sup>** (propantheline bromide)  
gives positive, selective benefits in  
gastrointestinal disorders.



Intragastric photograph of pyloric region showing complete relaxation of pyloric sphincter with 6 mg. of Pro-Banthine intravenously.

**A**N IMPORTANT PROBLEM in managing gastrointestinal disorders has been the choice of an anticholinergic agent which will act positively and selectively on the gastrointestinal tract without extensive secondary effects.

Recent direct observations with the cinefibergastroscope and intragastric photography<sup>1</sup> visually confirm previous evidence that Pro-Banthine does, indeed, possess such selective activity.

Barowsky and his associates demonstrated that a minimal dose of 6 to 8 mg. of Pro-Banthine intravenously produced complete relaxation of gastric activity. Secondary effects were not significant.

By contrast, it required 0.8 mg. or double the usual dose of atropine intravenously to achieve similar gastric relaxation. Side effects of this dosage of the belladonna alkaloid were pronounced. Ventricular rates were as high as 150 per minute.

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**Dosage:** The maximal tolerated dosage is usually the most effective. For most *adult* patients this will be four to six 15-mg. tablets daily in divided doses. In severe conditions as many as two tablets four to six times daily may be required. Pro-Banthine (brand of propantheline bromide) is supplied as tablets of 15 mg., as prolonged-acting tablets of 30 mg. and, for parenteral use, as serum-type ampuls of 30 mg. The parenteral dose should be adjusted to the patient's requirement and may be up to 30 mg. or more every six hours, intramuscularly or intravenously.

**Contraindications:** In glaucoma or severe cardiac disease.

**Precautions:** Since varying degrees of urinary hesitancy may occur in the elderly male with prostatic hypertrophy, this should be watched for in such patients until they have gained some experience with the drug.

Although never reported, theoretically a curare-like action may occur with possible loss of voluntary muscle control. Such patients should receive prompt and continuing artificial respiration until the drug effect has been exhausted.

**Side Effects** The more common side effects, in order of incidence, are xerostomia, mydriasis, hesitancy of urination and gastric fullness.

1. Barowsky, H.; Greene, L.; Bennett, R., and Buganza, G.: The Effect of Anticholinergic Drugs on Gastric Motility and Pyloric Function, Scientific Exhibit, Annual Convention of the American Medical Association, Chicago, Illinois, June 26-30, 1966.



# When the battle with bacteria is in the upper respiratory tract

Routes of invasion through the oral and nasal passages to the nasopharyngeal mucosa: artist's depiction of sagittal section of head in perspective.





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**Contraindicated** in sulfonamide-sensitive patients, pregnant females at term, premature infants, or newborn infants during first three months of life.

**Warnings:** Use only after critical appraisal in patients with liver damage, renal damage, urinary obstruction or blood dyscrasias. If toxic or hypersensitivity reactions or blood dyscrasias occur, discontinue therapy. In intermittent or prolonged therapy, blood counts and liver and kidney function tests should be performed.

**Precautions:** Observe usual sulfonamide therapy precautions, including maintenance of an adequate fluid intake. Use with caution in patients with histories of allergies and/or asthma. Patients with impaired renal function should be followed closely since renal impairment may cause excessive drug accumulation. Occasional failures may occur due to resistant microorganisms. Not effective in virus or rickettsial infections.

**Adverse reactions:** Headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, Stevens-Johnson syndrome, injection of the conjunctiva and sclera, petechiae, purpura, hematuria or crystalluria may occur, in which case the dosage should be decreased or the drug withdrawn.

**Dosage:** Adults—4 tablets initially, then 2 tablets b.i.d. or t.i.d. depending upon severity of infection. Children—1 tablet/20 lbs initially, followed by ½ tablet/20 lbs b.i.d.

**How supplied:** Tablets, 0.5 Gm, bottles of 50.

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# Current Concepts on the Mechanisms of Shock

LERNER B. HINSHAW, Ph.D.

*This report emphasizes the importance of returning to primary principles in order to more satisfactorily seek out the underlying mechanisms of shock.*

IN CONSIDERATION of current concepts on the mechanisms of shock, it is important to point out that if the mechanisms are understood, effective therapies will be developed on a rational basis. The impelling imperatives behind the current thrusts in research on shock are directed toward the goal of reversing what has been characteristically termed "irreversible shock" in the patient. Doctor Maurice B. Visscher<sup>1</sup> has aptly stated, "In considering the mechanism of shock, it is important to go back to primary principles. Shock may properly be defined as a state of persistent and progressive arterial hypotension of a degree sufficient to impair the function of organs such as the kidney, liver and brain to the point of death."

To begin our discussion of current concepts on the mechanism of shock, it is help-

ful to consider the basic mathematical relationships exemplified in "Poiseuille's Law,"

$$\Delta P = (V) \frac{8L\beta}{r^4}. \text{ The determinants of}$$

blood pressure are (a) blood flow and (b) vascular resistance (figure 1). The blood pressure drop ( $\Delta P$ ) from the origin of the aorta to the right atrium is equal to the cardiac output ( $V$ ) multiplied by the total peripheral vascular resistance ( $R$ );  $\Delta P = (V) (R)$ . Resistance is composed of two main components, one pertaining to blood vessel caliber ( $r$ ) and length ( $L$ ) and the second concerned with the viscosity ( $\beta$ ) of the perfusate. Resistance is equal to —

and it is apparent that the radius factor ( $r$ ) is of chief importance because it is expressed as the fourth power which indicates that a very small degree of vascular constriction or dilatation will have a large impact on resistance and therefore on blood pressure.

A persistent drop in mean systemic arterial pressure to critically low values is the basic characterization of shock. Arterial pressure may fall as a result of three conditions: (a) a drop in cardiac output with no change in resistance; (b) a decrease in resistance with no alteration of cardiac output, and (c) decreases in both cardiac output and total peripheral resistance.

Presented to the Obstetrics and Gynecology Section of the 1966 Annual Meeting of the Oklahoma State Medical Association, May 13th, 1966.



DETERMINANTS OF BLOOD PRESSURE

## (1) BLOOD FLOW

## (2) VASCULAR RESISTANCE

Figure 1.

Our discussion has shown thus far that blood pressure is critically influenced by two factors, blood flow and vascular resistance. It is seen that blood flow (cardiac output) is directly influenced by the pump (heart) and the volume of blood returning to the heart (venous return) (figure 2). If the heart is defective, cardiac output may fall; and since pressure is a function of flow, pressure will decrease, assuming resistance remains constant. Starling's Law incorporates the observation that the heart in a steady state condition will eject that amount of blood returning to it from the venous vessels. Venous return therefore directly influences cardiac output and if venous return decreases due to intravascular pooling or loss from the vascular bed, arterial pressure will fall providing that resistance remains constant. Mechanisms, however, are operative which adjust resistance to offset effects of flow changes on blood pressure. These are shown in figure 3 and are composed of a complex system of nervous reflexes, the receptors of which are known as "baroreceptors" or "pressoreceptors." The most widely studied of these is the carotid sinus reflex, and the result of its activation is, among other factors, a change in vessel caliber which alters vascular resistance thereby stabilizing arterial blood pressure. In addition, resistance may be altered by the release of endogenous humoral agents producing vasoconstriction or vasodilatation. Humoral agents are complex as to their ul-

DETERMINANTS OF BLOOD FLOW:

## (1) THE PUMP

## (2) VENOUS RETURN

Figure 2.

RESISTANCE TO BLOOD FLOW

## BARORECEPTORS

## HUMORAL FACTORS

Figure 3.

timate effects, for a continuous intravenous infusion of a potent vasodilator agent will ultimately elicit a sympathoadrenal discharge, the net effect being vasoconstriction.

All of these mechanisms may, and probably do participate in most shock states. Research in this laboratory has been concerned with endotoxin shock. When lethal injections of gram-negative endotoxin (from *Escherichia coli*) are administered to the dog<sup>2,3</sup> or monkey,<sup>4</sup> among other animals,<sup>5</sup> profound vascular changes occur. It is pertaining to these changes as they relate to the development of irreversible shock, that this laboratory has expended a major effort. The next figure (figure 4) outlines changes in mean systemic arterial pressure (MSAP) and cardiac output (CO) resulting from lethal injections of endotoxin in the dog and monkey. The important observation is that the drop in arterial pressure regularly seen in both species is primarily due to a decrease in cardiac output. Alterations in total peripheral resistance also occur and have been reported to fall in both dog and monkey. There appears to be little question however, that venous return is the most important factor contributing to the decrease in arterial pres-

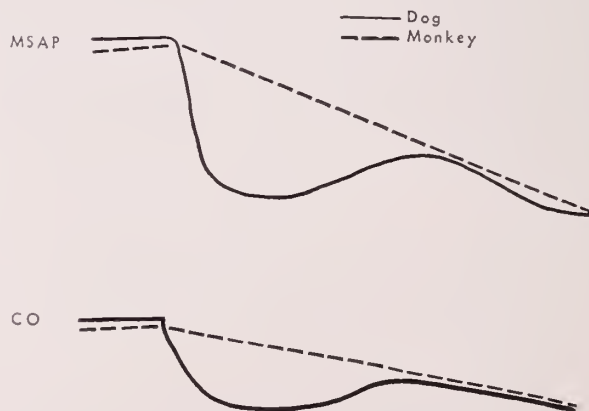


Figure 4. Responses of the dog and monkey in endotoxin shock.

MSAP = mean systemic arterial pressure

CO = Cardiac output

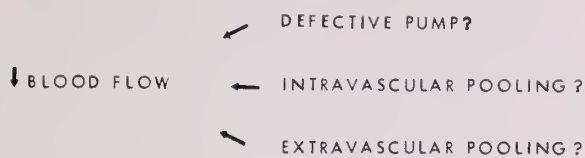


Figure 5.

sure in both dog and monkey. There is little experimental evidence to suggest heart failure as an early contributory cause of the drop in cardiac output (if the heart is normal prior to the onset of shock) except in the late stages in which the heart fails together with other organs of the body. Ultimately all organs die as a result of low blood perfusion, but the primary cause of the decrease in cardiac output in endotoxin shock is peripheral pooling and not cardiac failure. In explaining the development of sustained arterial hypotension, it is of critical importance to determine the cause of the

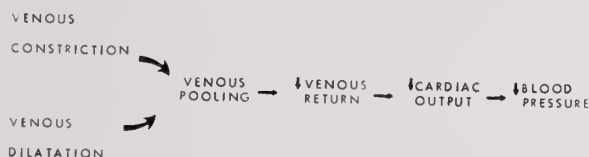


Figure 6.

decrease in venous return. Figure 5 presents two possibilities that merit serious consideration: Intravascular and extravascular pooling. In the dog, both occur, but the monkey however, shows no loss of blood to extravascular compartments. In the latter species the hematocrit falls or remains constant, and there is no gross or histological evidence of fluid loss from the vascular bed. Capillary hemodynamics apparently faithfully follow the Starling Hypothesis. There is no evidence of loss of capillary integrity, and net fluid shift is predominantly into the vascular bed. Yet venous return progressively falls

A 1955 graduate of the University of Southern California, Lerner B. Hinshaw, Ph.D., is now Professor of Physiology and Associate Professor of Research Surgery at the University of Oklahoma Medical Center. Doctor Hinshaw is a member of the American Physiology Society, the Western Clinical Research Society and the Society for Experimental Biology in Medicine.

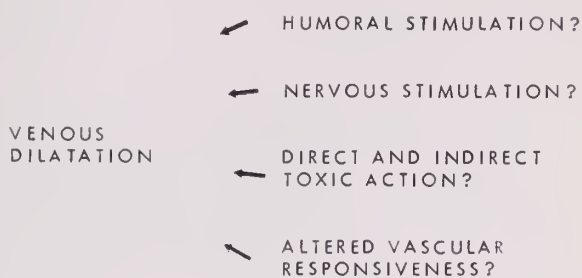


Figure 7.

in the monkey. Since prevailing evidence is opposed to heart failure in this species, intravascular pooling appears to be the primary contributory cause of shock. Let us focus our attention on the possible causes of intravascular pooling. Pooling may result from both venous constriction and dilatation. If veins constrict, they act as a "dam in the stream" and blood will accumulate proximally; if they dilate, their net volume increases and less blood returns to the right heart. Our research in the monkey<sup>2</sup> has provided evidence for venous dilatation in this species in contrast to the dog.<sup>3</sup> This observation, coupled with the general tendency for the peripheral resistance to fall in the monkey, suggests a "general loosening up" of the vascular bed, much like a sponge "soaking up blood." Figure 6 provides the sequence of events postulated to occur as a result of (a) venous constriction in the dog, and (b) venous dilatation in the monkey. In each instance, a decrease in arterial blood pressure is the terminal event.

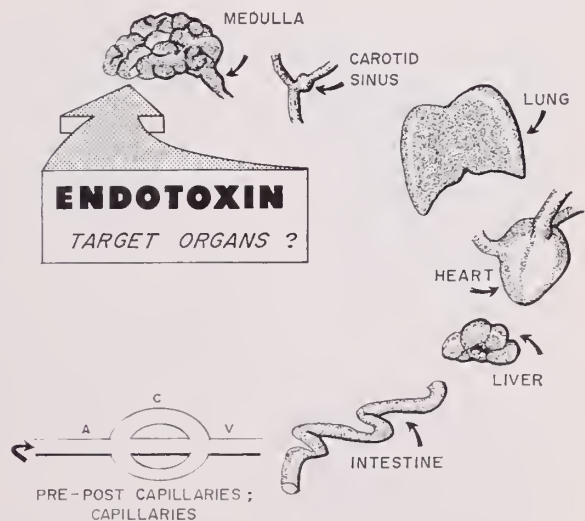


Figure 8. Probable critical anatomical sites of action in endotoxin shock.

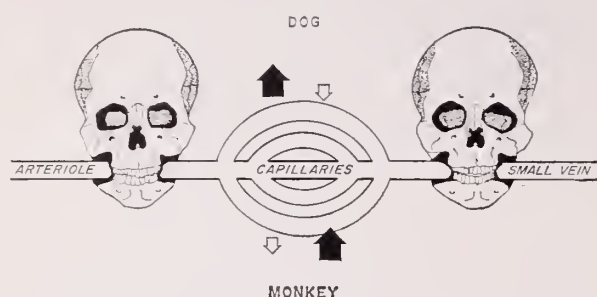


Figure 9.

We have postulated that generalized venous dilatation is the primary event occurring in the primate in endotoxin shock. The possible mechanisms which may bring about a state of generalized venous dilatation are shown in figure 7. Evidence for humoral factors performing a prominent role is derived from perfusion experiments on the forearms of monkeys. These totally denervated organs (severed from the body) perfused with blood from shocked animals, exhibit prominent dilatation of small veins. Humoral factors certainly play an important part in the response of blood vessels in the monkey, although the possible role of the nervous system in the stimulation of blood vessels has not been explored. It is also possible that endotoxin may exert a direct toxic action on veins causing them to dilate. However, experiments carried out in this laboratory in the dog offer indirect evidence opposed to this possibility: Depressed renal function has been shown to be due to renal vasoconstriction or systemic hypotension, with the resultant detrimental effects of lowered renal perfusion pressure and blood flow.  $T_{\text{PAH}}$  remains within the normal range if arterial pressure is supported. In addition, there are minimal vascular effects in isolated perfused organs if a whole animal is not included in the perfusion circuit. Changes occurring after endotoxin in an organ appear to be primarily humorally induced from distant sites. Indirect toxic actions on the vascular bed resulting from abnormal metabolism, appear to be excluded in our recent studies in monkeys since a decrease in venous return after endotoxin occurs well in advance of abnormal shifts in oxygen uptake, carbon dioxide production

and pH. It is possible that the responsiveness of venous smooth muscle to circulating humoral agents may be modified. If veins either become increasingly sensitive to a dilator or less sensitive to a constrictor, the net effect would be an increase in vessel caliber and a decrease in venous resistance. Evidence from this laboratory in dog experiments<sup>3</sup> has shown that veins become more sensitive to catecholamines resulting in additional pooling. Such studies however, have not been carried out on monkeys.

Figure 8 serves to underscore the complexity of the mechanisms of endotoxin shock. A multitude of anatomical structures may be involved either primarily or secondarily in the shock state. All of the possibilities displayed in the figure have received serious consideration in studies pertaining to the mechanisms of shock. Many investigators feel that the ultimate cause of shock will be found to reside in pre-capillary (arterioles) or post-capillary (venules) segments of the vascular bed, as shown in figure 9. It is readily conceivable that death may result if blood is prevented from entering critical vascular beds due to increased pre-capillary resistance or a greatly decreased arterial pressure. It is also logical that death may result from abnormal responses of the post-capillary (venous) elements of the vascular bed. The enormous potential for venous pooling in the primate cannot be overemphasized in regard to its profound effects on venous return, cardiac output and arterial blood pressure.

It is hoped that within a few years needed missing information will be added to our current storehouse of knowledge pertaining to the mechanisms of shock, so that it will be possible to consistently reverse what is now considered to be irreversible shock. □

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**Brief summary.** Blurring of vision, dry mouth, difficult urination, and flushing or dryness of the skin may occur on higher dosage levels, rarely on usual dosage. Administer with caution to patients with incipient glaucoma or urinary bladder neck obstruction. Contraindicated in acute glaucoma, advanced renal or hepatic disease or a hypersensitivity to any of the ingredients.



# Vesicoureteral Reflux in Children-- Current Thoughts on Significance and Management

SHELBY D. BARNES, M.D.\*  
DONALD D. ALBERS, M.D.\*\*

*Current thoughts on the management of pediatric patients with urinary tract infection and vesicoureteral reflux are illustrated with case reports.*

ALTHOUGH the importance of the ureterovesical valve in preventing reflux was investigated and established some 40 years ago,<sup>1</sup> the clinical significance of vesicoureteral reflux has not been appreciated until recent years.<sup>2</sup> Patients with significant reflux almost invariably have urinary tract infection, and it is now accepted as reasonable to check for reflux in all children who have urinary tract infection. Our cystourethrograms are done routinely using image intensification fluoroscopy with spot films. The use of conventional x-ray equipment with two or three exposures during voiding is still adequate for many cases.<sup>3, 4, 5</sup> Problems other than reflux may be disclosed by a thorough urologic survey, such as a ureterovesical obstruction, ureteropelvic obstruction, or bladder neck obstruction. Complete urological study includes blood chemistries, urine

studies, intravenous pyelograms, cystourethrograms, and cystoscopy.

A few cases which will illustrate certain features of the management of reflux will be presented. It should be emphasized that cases with minimal reflux usually do not require antireflux surgery but should be followed closely by a physician and restudied urologically at intervals. Those children with reflux which fills the ureter, pelvis, and calyces with mild to moderate dilatation are treated conservatively first, sometimes for a year or more, before a decision is made to do antireflux surgery. At intervals the urologist reevaluates the upper tracts, bladder neck, and calibrates the urethra and meatus.

This paper reflects the experience of reimplanting 75 ureters and diverting several ureters above the bladder. Our first reimplantations were done in 1959. In the past three years the combined private and service case experience constitutes 752 cystograms on 403 patients. The incidence of reflux has been 19 per cent. Reimplantations have been done on about 40 per cent of those with reflux. This percentage is high because some of the patients were studied elsewhere and referred for antireflux surgery. These were restudied by cystogram and contribute to the high percentage of surgery on refluxing ureters.

Case #1: *This case is typical of the child who has vesicoureteral reflux only when infected.*

\*NIH Fellow and Clinical Instructor in Urology, University of Oklahoma Medical School.

\*\*Associate Professor of Urology, University of Oklahoma Medical School, and Urologist, Oklahoma City Clinic.





Figure 1A

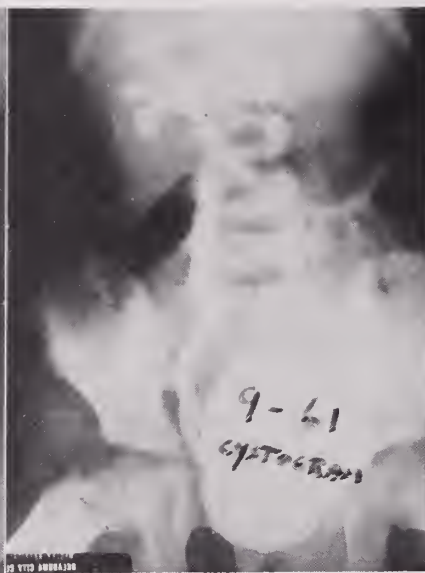


Figure 1B

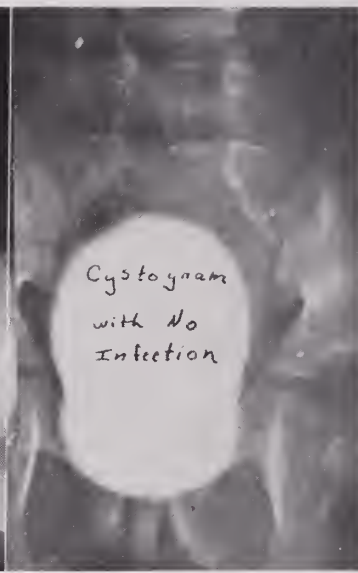


Figure 1C

(A) IVP showing inflammatory changes, right ureter. (B) Cystogram while infected showing right ureteral reflux. (C) Cystogram after infection with no reflux.

This 11-year-old white girl began having infected urine and enuresis at age three. The infection was adequately controlled with antibacterials orally. A thorough study at age six revealed evidence of inflammatory changes (figure 1a) and reflux (figure 1b). Bladder neck obstruction was not present. With adequate therapy and follow-up, it was demonstrated that the reflux disappeared (figure 1c). However, the reflux was also shown to reappear with each infection. She has been on treatment for periods as long as

one year and at present only requires intermittent antibacterial therapy.

Case #2. This case illustrates reflux with a bladder diverticulum through the ureteral hiatus with associated bladder neck contracture. With these findings, corrective surgery is indicated and there is no reason to procrastinate.

This eight-year-old white boy was admitted to Childrens Memorial Hospital in 1964 with a two year history of recurrent urinary tract infections. An intravenous pyelogram



Figure 2A

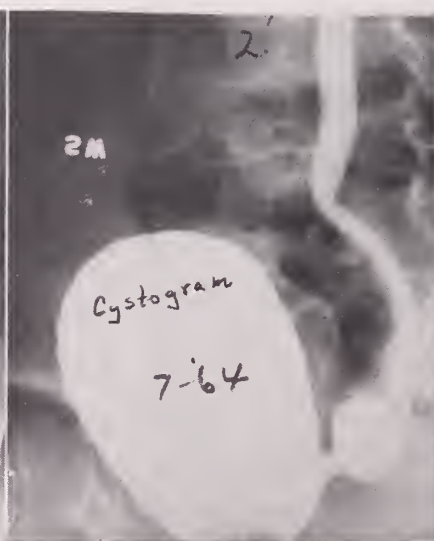


Figure 2B

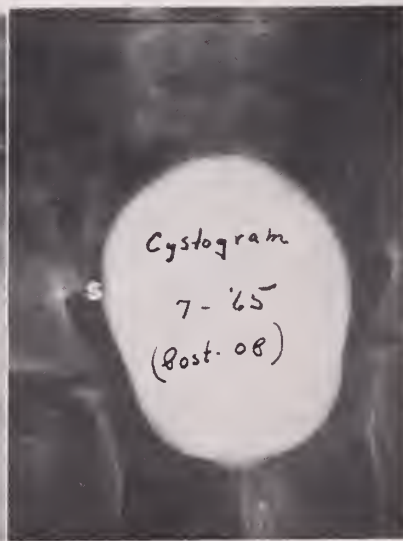


Figure 2C

(A) IVP appearing essentially normal. (B) Cystogram showing diverticulum and ureteral reflux, left. (C) Postoperative cystogram showing no ureteral reflux.



Figure 3A



Figure 3B

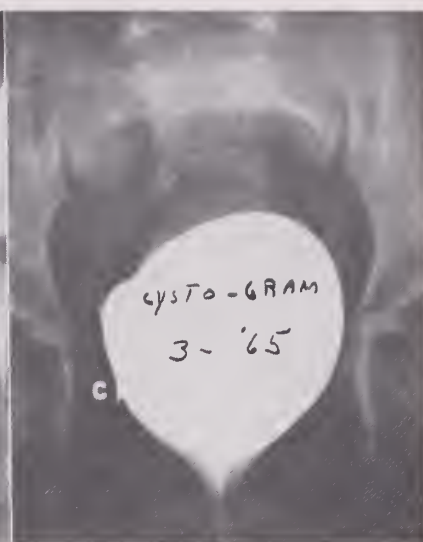


Figure 3C

(A) IVP showing essentially normal right kidney, no evidence left kidney. (B) Cystourethrogram showing bladder neck obstruction and right ureteral reflux. (C) Cystogram showing open bladder neck and no reflux.

was normal (figure 2a), and the urine was negative, but the cystogram revealed a bladder diverticulum and left ureteral reflux (figure 2b). Cystoscopy confirmed the diverticulum and probable bladder neck contracture. A surgical revision of the bladder neck, diverticulectomy, and reimplantation of the left ureter was done. He was discharged on long-term antibacterial therapy.

A repeat cystogram one year later showed no reflux (figure 2c) and the intravenous pyelogram was normal. The urine was sterile, and there was no history of recurrent urinary tract infection.

Case #3: This case raises the issue of bladder neck obstruction as a cause for reflux. Relieving the bladder neck obstruction did not prevent the reflux. In our experi-



Figure 4A

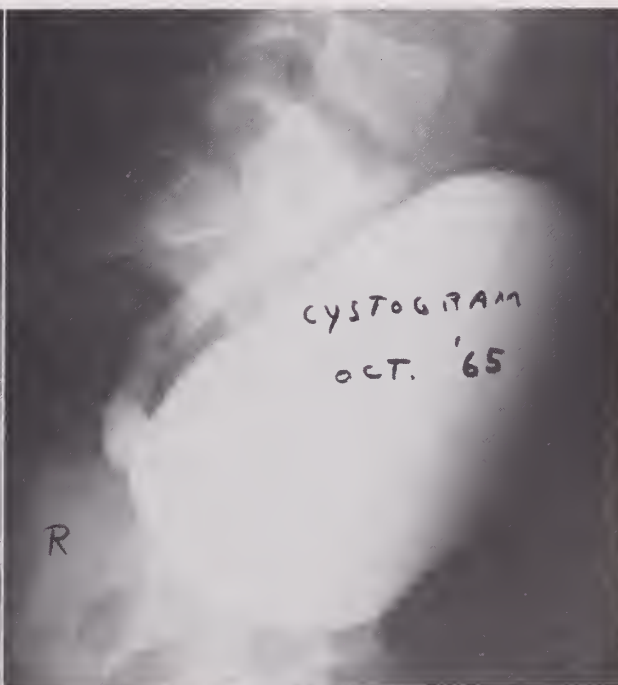


Figure 4B

(A) Cystogram showing left ureteral reflux. (B) Cystogram showing right ureteral reflux following reimplantation of left ureter.





Figure 4C



Figure 4D

(C) Cystogram showing no reflux after reimplantation of right ureter. (D) Postoperative IVP appearing normal.

*ence, bladder neck revision seldom alleviates established reflux.*

This five-year-old white boy was admitted to Childrens Memorial Hospital in 1962, with a history of recurrent urinary tract infections for two years. An intravenous pyelo-

gram and cystogram revealed no function of the left kidney (figure 3a). There was moderate dilatation of the right ureter and collecting system, with low pressure right ureteral reflux (figure 3b). Cystoscopy revealed absence of the left ureteral orifice

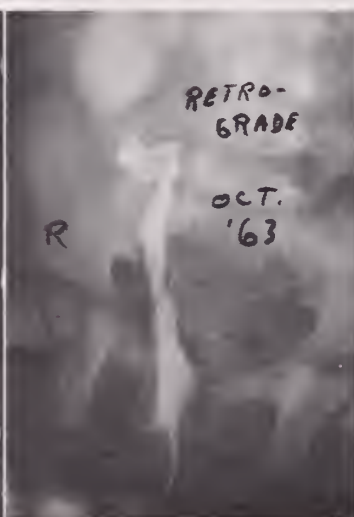


Figure 5A (left)  
Figure 5B (center)  
Figure 5C (right)

(A) Cystogram showing reflux left ureter. (B) Right retrograde pyelogram through ectopic ureteral orifice. (C) Postoperative IVP showing good function and no dilation left kidney.



(and by inference the kidney) and a narrowed bladder neck. The urine was sterile on culture and a measured voiding pressure was normal. Since this boy had a solitary kidney, it was decided to give him long-term antibacterial therapy with follow-up in the outpatient clinic. A repeat cystogram in three months again revealed low pressure reflux. He was readmitted to Childrens Memorial Hospital where he had a surgical revision of the bladder neck. Following discharge, antibacterials were continued and he did well clinically. However, another voiding cystourethrogram nine months later revealed a persistent low pressure reflux. The bladder neck was patent. Six months later he was readmitted to Childrens Memorial Hospital and a reimplantation of the right ureter was done. He has continued to do well postoperatively, and a cystogram (figure 3c) was normal one year later. His urine was sterile on culture.

*Case #4: This case illustrates reflux which is not producing much change in the upper tracts. However, the reflux is persistent and makes the urinary tract infection difficult to control. Another problem is demonstrated in that occasionally when one ureter is reimplanted, the other will later reflux. It is our present belief that this subsequent reflux results from placing sutures too close to the nonrefluxing orifice in the reimplantation of the refluxing ureter.*

This five-year-old white girl was admitted to Childrens Memorial Hospital in 1965, with a two-year history of recurrent urinary

tract infections which had been treated with antibacterials. In June 1964, an intravenous pyelogram was normal and a cystogram (figure 4a) showed left ureteral reflux. Similar studies six months later revealed persistent reflux. Cystourethroscopy disclosed urethral stenosis and dilatation was performed. Surgery was deferred on the left ureterovesical valve. She was discharged on long-term antibacterial agents. However, the reflux remained six months later and surgical reimplantation of the left ureter was done. Although antibacterial agents were continued on discharge, intermittent symptomatic pyuria persisted, and cystography in three months (figure 4b) revealed reflux on the right side only. Previously, this valve had been competent. Oral antibacterial agents were continued one month longer, but the right ureterovesical reflux persisted. Because of progressive dilation, an antireflux procedure was done on the right side. Since then, this girl has been asymptomatic. All antibacterial agents were discontinued six months following the last reimplantation, and two months later a cystogram and intravenous pyelogram were normal (figures 4, c and d).

*Case #5: This case illustrates significant reflux on the left due to a congenital shift of the left ureteral orifice distally to near the bladder neck. The right orifice was also ectopic with an opening outside the bladder in the septum between the external urethral meatus and the vaginal orifice. There was a resultant hydronephrotic destruction of the right kidney with continuous incontinent flow of urine.*

This two-year-old white girl was admitted to Childrens Memorial Hospital in 1963, with a history of continuous dribbling of urine since birth. An intravenous pyelogram revealed a right hydronephrosis and a cystogram revealed left ureteral reflux (figure 5a). An ectopic right ureteral orifice in the urethrovaginal septum was found on cystourethroscopy. Retrograde pyelography (figure 5b) on the right showed a large hydronephrosis. A right nephroureterectomy and a left antireflux procedure were performed. Since then, she has done well clinically, and her urine has remained sterile since all medications were discontinued 18 months later. Reflux was absent on cystography one year

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*Donald D. Albers, a 1943 graduate of Northwestern University School of Medicine, has been certified by the American Board of Urology. In addition to his private practice, Doctor Albers is Associate Professor of Urology at the University of Oklahoma School of Medicine. He is a member of the American Urological Association, the American College of Surgeons and the Society for Pediatric Urology.*

## Reflux / BARNES, ALBERS

after medications were discontinued. The intravenous pyelogram showed good function on the left without dilatation (figure 5c).

Case #6: *This case illustrates the failure of decompensated ureters to recover even though long-term nephrostomy diversion and reimplantation of one ureter was done. Under cinefluoroscopy, ureters that have lost their peristaltic properties obviously are not suitable for reimplantation. Supravesical diversion becomes necessary.*

This eight-year-old white girl was admitted to Childrens Memorial Hospital in 1964, with only a two month history of urinary tract infection. She was a retarded child of a retarded mother. A cystogram (figure 6a) revealed massive, bilateral, hydroureteronephrosis while the intravenous pyelogram showed only poor visualization on the right. Bilateral nephrostomies were performed. Her preoperative blood urea nitrogen was normal but creatinine clearance was impaired. Her postoperative course was benign, and she was discharged two months later on long-term antibacterial agents. On readmission three months later, the right ureter was surgically narrowed and reimplanted. However, on subsequent study six

months later (figure 6b) the ureter was aperistaltic. Therefore, a transperitoneal exploration was done which revealed a left hydronephrotic sac. A left nephroureterectomy and right pyeloileostomy (interposition of a segment of ileum between the right renal pelvis and skin) were done. Postoperatively, the blood urea nitrogen reached a high of 51, but slowly returned to normal. An intravenous pyelogram six months later (figure 6c) revealed satisfactory right renal function. In December 1965, her blood urea nitrogen was 18, and she had no history of fever or chills. When examined in July 1966, she was doing well clinically.

### DISCUSSION

The current opinion of most urologists is that vesicoureteral reflux is abnormal. The finding of reflux in the course of a thorough urologic study alerts the physician to a complete study for its etiology and close follow-up observation. The absence of reflux does not signify a normal urinary tract since other problems may cause infection, such as ureteropelvic, ureterovesical or bladder neck obstruction. However, in several series children with urinary tract infections, enuresis, etc., when investigated showed reflux in a significant percentage (15 to 30 per cent) of the cases.<sup>7, 8, 9</sup>

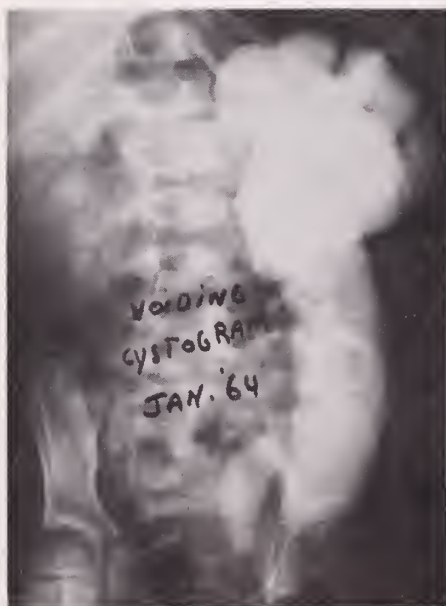


Figure 6A



Figure 6B



Figure 6C

(A) Cystogram voiding showing right hydronephrosis and massive left urinary tract dilatation. (B) Right pyelogram through nephrostomy tube. (C) Postoperative IVP showing good function of right kidney and ileal conduit.



The ureterovesical valve is anatomically a complex unit, integrally related to the ureter above, the intramural ureter and fibers of the bladder trigone and urethra below. There are several mechanical factors which play an important role at the ureterovesical valve in determining the presence or absence of reflux. These are: Length of the intramural ureter relative to its diameter; degree of flexibility in the junctional apparatus; fixation and backing of the lowermost ureter; and the intravesical pressure.<sup>2, 7, 8, 9</sup> The flexibility of the ureterovesical valves can be impaired by urinary tract infection as demonstrated by the disappearance of reflux with control of the infection. The other abnormalities would be detected by a combination of roentgenographic studies and cystoscopy.

Until recent years there has been some hesitancy by urologists to do antireflux surgery (reimplantation of the ureter into the bladder by a tunneling technique or some other procedure to elongate the submucous ureteral tunnel). However, it has gradually evolved that the correction of bladder neck contracture or urethral obstruction rarely prevents continued reflux through a decompensated ureterovesical valve.

Transient reflux, or reflux without upper tract changes usually can be managed conservatively. When the refluxing ureter dilates along with the kidney pelvis, there is more reason for concern. These children are followed carefully on continuous antibacterial therapy for a year or more before deciding on antireflux surgery. When the ureter on the intravenous pyelogram is dilated more than one cm., the chance of suc-

cess from antireflux surgery diminishes. With advanced changes in the ureters the decision sometimes is made to divert the urine permanently rather than to attempt antireflux surgery. Our present policy is directed towards earlier evaluation of children with urinary tract infections, demonstration of reflux if present and long-term antibacterial therapy. If reflux persists and there are upper tract changes, antireflux surgery is often performed. More attention is being given to renal function tests, such as the concentrated osmolarity and creatinine clearance in addition to blood urea nitrogen in the evaluation and follow-up of these patients. Our aim is to preserve renal function as well as to control symptoms.

#### SUMMARY

Six representative cases of children with ureterovesical reflux are presented. The diagnosis, etiology and treatment are discussed. A plea is made for earlier urological evaluation of all children with urinary tract infections. □

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## INSURE WITH INA

The professional liability insurance coverage underwritten by the Insurance Company of North America has been endorsed exclusively by the Oklahoma State Medical Association's House of Delegates.

All OSMA members are encouraged to see an INA agent in their communities for further information about the program—or contact the OSMA Executive Office at P.O. Box 18696, Oklahoma City (Telephone Area Code 405 VI 2-3361).



## ABSTRACTS

### PSYCHIATRIC EMERGENCIES

This brief article contains many pertinent clinical observations and advice for the physician confronted with handling the psychiatric emergency. The various tative form must be used—"the laying on of hands." (2) the delusional patient, (3) the uncooperative patient, (4) the patient threatening foolish behavior, (5) the addict in withdrawal, and (6) the patient about to receive bad news. The author warns of the patient seeking emergency help as a means of manipulation of some segment of society for his own gain and wisely advises treating him in a routine fashion.

The four principal courses of action available are: (1) Talk. Communication by the person representing authority may bring control quickly. If the patient is unresponsive to verbal communication, the most primitive form must be used—"the laying on of hands." (2) Physical intervention. Adequate, calm strength conveys the idea of protective custody. (3) Chemical intervention. Tranquilizers are the drugs of choice. Use of the sedatives risks adding a medical problem to the situation. (4) Calling for assistance. This entails having advance knowledge of procedures to obtain admission to a psychiatric hospital.

Psychiatric Emergencies Commonly Seen in General Hospitals. J. T. Shurley. Hospital Medicine, 2: 100-106, 1966.

### OTOSCLEROSIS

This article presents an excellent review of the work published in the previous year in the area of the pathology, pathogenesis, surgical techniques, and postoperative complications of otosclerosis. Some workers are convinced that the process of otosclerosis is controlled by the blood supply, acidity of the tissue fluids in the area and such enzymes and hormones as acid phosphatase, citric acid, parathyroid hormone and uric acid. There are studies of the relationship of this process to a sensorineural hearing impairment produced by vascular or toxic changes in the cochlea.

With the appearance of articles in the literature on the use of sodium fluoride in the therapy of osteoporosis as well as the prevention of dental caries, there have

come suggestions that too little fluoride may also cause otosclerosis. Stambaugh gave this drug for two months to patients with otosclerosis and thought there was clinical improvement and later during surgery there was evidence of a maturing of the otosclerotic lesion on microscopic examination.

No new surgical techniques were introduced. Some of the postoperative problems relate to the difficulty of sterilization of the external auditory canal with introduction of bacteria into the inner ear at surgery. Postoperatively transient vestibular disturbances after stapedectomy were shown by vertigo or nystagmus. Normal balance and gait were noted within ten days. The greatest attention seems to be directed to the problem of a perilymphatic fistula developing from an inadequate seal of the oval window or tissue breakdown by the prosthesis.

The author concludes with his evaluation of various surgical techniques. One is left with a feeling of admiration for the workers in this field and the tremendous strides that have been made to help this type of hearing loss.

Recent Advances in Otosclerosis. J. V. D. Hough. Arch. of Otolaryngology, 83: 379-390, 1966.

### RECENT PUBLICATIONS

The *Journal* welcomes the opportunity to list current publications by any Oklahoma physician.

Learning Problems of Handicapped Children. M. D. Schnechter. Lancet, 85: 510-515, 1965.

Plasma Free fatty acid and Blood Sugar Levels in Newborn Infants and their Mothers. D. K. Keele and J. L. Kay. Pediatrics, 37(4): 597, 1966.

Montessori and the Child's Natural Development. M. D. Schechter. Children's House, 13: 16, 1966.

Mandatory Immunization—Poliomyelitis, Smallpox, and Measles. H. D. Riley, Jr. Southern Med. Bull., 54: 8-23, 1966.

Hypothalamic Stimulation Secondary to a Non-adenomatous Suprasellar Tumor Causing Cushing Disease in a Six-Year-Old Boy. J. D. Smith, C. R. Cagas, and J. R. Seely. Proceedings of Amer. Pediatric Soc., page 62, 1966.

# OSMA ANNUAL MEETING

May 11th-14th, 1967

Tulsa Assembly Center



Mayo Hotel



Tulsa

# Books As Clinical Tools

## IMPROVING LIBRARY SERVICES IN OKLAHOMA

KELLY M. WEST, M.D.

Previous installments of this column have called attention to the urgent need for better library services. If our patients are to receive the full benefits of the achievements of medical science, we need more, better, and more relevant information, in an easily digestible form, and it must be supplied expeditiously.

As in other states, progress in Oklahoma has been slow, not because we lack the resources to construct a good statewide program for library services, but mainly because such an undertaking has not been the primary responsibility of any particular group. It now appears, however, that it will be possible for the University of Oklahoma Medical Center to play a catalytic role in improving library services in Oklahoma. Support from the Regional Medical Program of the National Institutes of Health and anticipated support from the National Library of Medicine will make it possible to begin specific planning in this field. The Medical Center will undertake this planning in consultation with the Oklahoma State Medical Association, the community hospitals, and the medical librarians, together with other interested groups.

It is difficult to know at this time what kinds of projects should be given first priority for improving our systems of selecting, storing, retrieving and disseminating information. Only a few possibilities will be mentioned. A recent informal survey in Oklahoma indicates that we urgently need more manpower the the health communications

field at all levels of training. We need a strong central information facility which can provide information and supporting services to libraries in community hospitals and directly to physicians and other health-related personnel. We need to improve library facilities and services in our hospitals. We must determine which of the newer technologies such as computers, long distance Xerox, etc., are applicable and feasible. The National Library of Medicine is developing a nationwide information network that will apply modern technology to the fullest. We in Oklahoma need to review the NLM program to determine how we can bring it to bear in solving our own requirements for better information service.

Basic to this planning is the establishment of a mechanism for bringing together those persons and institutions who can contribute to, and benefit from, a cooperative enterprise of this kind. Toward this end, the Medical Center will, in the near future, serve as host to a planning meeting of some of the parties concerned. This planning meeting will be developed in consultation with the Oklahoma State Medical Association Council on Professional Education. The participants in this meeting might include representatives of community hospitals and of certain private agencies, such as the Oklahoma Heart Association and the Oklahoma Division of the American Cancer Society, all the medical librarians, and representatives of the major health professions such as dentistry, nursing, and medical technology.

This meeting will not attempt any definitive solutions for the "information gap," but it could identify more precisely our needs, resources and capabilities, assign some priorities, and create means by which cooperation can continue as we try to improve patient-care by devising better information services for the practitioners who must provide this care. □

One of a series sponsored by the Department of Continuing Education, University of Oklahoma Medical Center.

## Hypertrophic Subaortic Stenosis: Fact or Artifact?

JOHN NAUGHTON, M.D.

THE VARIOUS lesions which obstruct left ventricular outflow<sup>1</sup> and the possible etiologies of idiopathic left ventricular hypertrophy<sup>2</sup> have been reported in recent issues of the *Journal*. These articles emphasized the commonly observed features of hypertrophic subaortic stenosis, a disease entity first described by Brock<sup>3</sup> in 1957 and clarified in more detail in 1964 by Braunwald, *et al.*<sup>4</sup> The clinical features of this apparently acquired disorder contrast with those of valvular aortic stenosis in that the ejection murmur usually, but not always, occurs in the latter half of systole and is heard best at the base and apex without radiation into the neck. In addition, the degree of left ventricular hypertrophy is usually much greater than that detected in pure valvular stenosis. The hemodynamic alterations include a sharp upstroke of the arterial pulse and a variability of pressure differential across the left ventricular outflow tract. Focal areas of myocardial hypertrophy which gradually obstruct left ventricular outflow comprise the underlying pathological process.

During the past two years the concept that

obstructive disease of the left ventricular outflow tract even occurred was challenged by the work of Criley, *et al.*<sup>5</sup> Their studies in dogs revealed that similar gradients across the left ventricular outflow tract in systolic blood pressure were recorded when the left ventricular chamber was evacuated of blood. These alterations occurred despite the fact that anatomic obstruction of the left ventricular outflow tract was not present at the level of the aortic valve or below it. They concluded that the increase in intraventricular pressure was the result of a tremendous increase in the contractile force of the myocardium occasioned by the empty ventricular cavity. These findings have stimulated much controversy recently concerning whether or not such a disease entity actually exists in humans. In an attempt to clarify the issue, Ross, *et al.*,<sup>6</sup> recently summarized the arguments which supported the concept that left ventricular outflow tract obstruction does occur in man (table 1). These authors concluded that hypertrophic subaortic stenosis is an actual disease entity and that obstruction to outflow does, in fact, occur. The two most convincing bits of evidence supporting their conclusions are, first, that gradual obstruction to left ventricular outflow has been documented cineangiographically, and sec-

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Table 1  
Arguments For and Against the Concept of  
True Left Ventricular Outflow Tract Obstruction  
FOR

1. Pressure Gradients have been recorded across the outflow tract when the catheter is placed in the free portion of the left ventricle.
2. Only 30 per cent of the systolic stroke volume occurs in humans before a pressure gradient develops (electromagnetic flowmeters).
3. Numerous descriptions of focal muscular hypertrophy are available from surgery and autopsy information.
4. Alterations in the abnormal gradient have been documented following muscular excision.
5. Angiographic studies reveal evidence of apposition of the leading edges of the mitral valve with a bulging interventricular septum.

AGAINST

1. Increased left ventricular pressure can be induced in dogs by emptying the left ventricular cavity of blood.
2. Some conflicting human data which report that 75 per cent of the systolic stroke volume is ejected during the first half of ventricular systole.
3. Difficulty in documenting angiographic evidence of subaortic obstruction in many patients.

only, that focal areas of myocardial hypertrophy have been observed at surgery. The apparent discrepancy may be accounted for by the fact that Criley, *et al.*, were not studying the natural history of a disease process as it affects man, but were invoking experi-

mental conditions to simulate the clinical entity.

The clinical implications and the importance of this controversy are obvious. Although the etiology of the disease process has not been defined, the clinical and hemodynamic features have been so amply described that the diagnosis can be confirmed if it is suspected. If a diagnosis of hypertrophic subaortic stenosis is established, many patients may obtain symptomatic relief by surgical intervention at the opportune time. This intervention may help prevent premature death from such complications as syncope, myocardial infarction or congestive heart failure. All physicians should suspect this malady in every patient with unexplained left ventricular hypertrophy. □

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## WHAT IS OMPAC?

OMPAC means the Oklahoma Medical Political Action Committee, established in 1962 for an important purpose—to win better legislative representation through political action. The non-partisan program concentrates statewide resources on key races where the challenges are most significant and the chances for important victories are most probable. Small financial contributions from physicians, their wives and others are transformed into a concerted political force.

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WHATEVER YOUR POLITICS—VOTE OMPAC!

## Speakers Named For Annual Meeting

Fourteen leading American physicians have been announced as visiting distinguished guest speakers for the 61st Annual Meeting of the Oklahoma State Medical Association in Tulsa, May 11th-14th, 1967.

Maxwell A. Johnson, M.D., General Chairman, announced recently that the following had accepted invitations to appear on the convention program:

John Henry Moyer, M.D., Chairman of the Department of Medicine, Hahnemann Medical College, Philadelphia, Pennsylvania.

John L. Ochsner, M.D., Chief of the Department of Surgery, The Ochsner Clinic, New Orleans, Louisiana.

Frederick R. Guilford, M.D., Professor of Otolaryngology, Baylor University School of Medicine, Houston, Texas.

Ray T. Parmley, M.D., Chairman of the Department of Anesthesiology, University of Kansas School of Medicine, Kansas City, Kansas.

Armand E. Brodeur, M.D., Associate Professor of Radiology, St. Louis University School of Medicine, St. Louis, Missouri.

James G. Hughes, M.D., Chairman of the Department of Pediatrics, University of Tennessee School of Medicine Memphis, Tennessee.

Daniel E. Scott, M.D., Assistant Professor of Obstetrics and Gynecology, Southwestern Medical School, Dallas, Texas.

Chalmers R. Carr, M.D., Orthopedic Surgeon, Charlotte, North Carolina.

Paul C. Peters, M.D., Associate Professor of Surgery, Division of Urology, Southwestern Medical School, Dallas, Texas.

Samuel L. DeLong, M.D., Chairman of the Department of Ophthalmology, Hospital of the University

of Pennsylvania, Philadelphia, Pennsylvania.

G. Thomas Jansen, M.D., Associate Professor of Dermatology, University of Arkansas School of Medicine, Little Rock, Arkansas.

Richard J. Babcock, M.D., Instructor in Obstetrics and Gynecology, University of Utah School of Medicine, Salt Lake City, Utah.

Philip B. Phillips, M.D., psychiatrist, Pensacola, Florida.

The annual meeting will again feature specialty sections in separate sessions held concurrently at the Tulsa Assembly Center. A general session, sponsored by the Oklahoma Academy of General Practice, is scheduled for Saturday afternoon, May 13th.

The sections on pediatrics and radiology will meet Thursday afternoon, May 11th. The sections on surgery and psychiatry are scheduled for Friday morning, May 12th, with the sections on obstetrics and gynecology and medicine—cardiology meeting in the afternoon of that day. The sections on orthopedics, dermatology, ophthalmology and otolaryngology will meet on Saturday morning, May 13th. In addition to the general session on Saturday afternoon, the sections of urology and anesthesiology will also meet. □

## OSMA Annual Business Sessions Set For May

Speaker of the Oklahoma State Medical Association's House of Delegates, C. M. Hodgson, M.D., Kingfisher, has announced the format for the annual session of the association's top policy-making body which will be held during the OSMA convention in May.

Two sessions of the Delegates are scheduled: The opening meeting for the morning of Friday, May 12th, and the closing session for Saturday morning, May 13th. Both sessions

will begin at 9:00 a.m. in the Tulsa Assembly Center and business should be concluded by noon each day.

The opening session will feature the appearances of special guests, the introduction of reports and resolutions, and the nomination of OSMA general officers, AMA delegates and alternate delegates, and Board of Trustees candidates.

Delegates will be recessed around noon to attend the "Stage Door Luncheon" luncheon on the stage of the Assembly Center followed by the afternoon's scientific section meetings on obstetrics-gynecology and medicine-cardiology.

### CALL FOR RESOLUTIONS

A memorial or resolution for consideration of the House of Delegates may be initiated by a component society or by a member of the association, and must be signed by either the secretary of the component society or by the member, respectively.

All memorials or resolutions must be filed with the Executive Office of the association at least 30 days prior to the meeting at which they are to be considered.

Reference committees of the House of Delegates will conduct open hearings on the business items under consideration on Friday afternoon, beginning at 4:00 p.m. All members of the association are invited and urged to attend the open meetings and will be free to present their opinions on all matters. Reference committees will prepare reports containing recommendations on business items referred to them for presentation to the closing session of the entire House of Delegates on Saturday morning.

Also scheduled for the Saturday morning meeting will be the elections, and a special appearance by Charles L. Hudson, M.D., President of the American Medical Association.

Preceding the House of Delegates' meetings, the OSMA Board of Trustees will hold its annual business session on Thursday afternoon, May 11th. □



## Social Events Listed For Annual Meeting

Wine and cheese, Eddie Peabody, Gaslight and psychedelic . . . tell the story of the social events planned for this year's annual meeting in Tulsa.

The social whirl will start Thursday evening, May 11th, with a wine and cheese tasting party in the Tulsa Petroleum Club. The wine is being furnished by the Wine Institute of the California Wine Growers Association.

The party will be held on the 14th floor of the Petroleum Club, overlooking downtown Tulsa.

Friday night's Gaslight Party will take you back to the Gay 90's. Dixieland, by the Buddy Billen Band, will be the vogue and the bowler and derby will be in style.

The party, to be held in the Crystal Ballroom of the Mayo Hotel, will feature a special "psychedelic" light show. This has been described as being somewhere between the twilight zone and LSD.

Go-go girls and a folk singer will furnish special entertainment and a sandwich bar and draft beer will provide nourishment for the evening's activities.

The Stage Door Canteen luncheons to be held at noon on Friday and Saturday will be "free" for all registrants and exhibitors. They will be held on the stage of the Tulsa Assembly Center Hall and will feature beer, soft drinks and sandwiches.

Friday's luncheon will be sponsored by Blue Cross and Blue Shield and the Utica Square National Bank will sponsor the one Saturday.

The social activities will conclude with the President's Inaugural Dinner-Dance on Saturday evening, May 13th, in the Crystal Ballroom of the Mayo. Doctor Maxwell A. Johnson, Tulsa urologist, will be inaugurated as President of OSMA.

The Banjo King, Eddie Peabody, will be the featured entertainment for the evening. Peabody has been playing the banjo and entertaining since the early 1920's. □

## New Form Proposed For Medicare-DPW Claims

OSMA'S Governmental Relations Committee and the Board of Trustees have endorsed the use of a new claim form designed to simplify billing for medical services where financial responsibility is shared by the Department of Public Welfare and the Social Security Administration (Medicare).

The new form, SSA-1490W, was developed as a single substitute for the two forms which are now necessary before a physician may collect the basic Medicare payment from the Aetna Life and Casualty Insurance Company and the co-insurance and deductible from the Department of Public Welfare on indigent patients who are receiving both Social Security and old age assistance benefits.

Use of the two forms, the standard SSA-1490 and the DPW's Adm-36, has created a number of administrative problems involving co-ordination between the two fiscal agents, not to mention a great deal of confusion within the medical profession.

However, Aetna and Department of Public Welfare officials met on February 28th to discuss the applicability of the new SSA-1490W form, and as a result of this meeting, the opinion of the medical association was sought.

OSMA's endorsement of the form was achieved within a few days and transmitted to the two fiscal agents. It is believed the matter will be presented to the Oklahoma Public Welfare Commission for consideration at its meeting this month.

The new form follows the pattern of the standard SSA-1490 with the exception of providing space for information needed by the Department of Public Welfare to meet the requirements of law under which it operates. A physician will need to complete only one form, however, to comply with the rules of both carriers.

Doctor Scott Hendren, Chairman of the Governmental Relations Committee, said he is hopeful that the form can be adopted by all concerned. "The problem of divided responsibility

for the payment of claims on Medicare-DPW beneficiaries has presented the greatest source of administrative headaches, and this new form should simplify the work of everyone." □

## Physicians Entitled To Medicare or DPW Fee Reviews

The association's Governmental Relations Committee reminds all OSMA members of their right to request a review of fees questioned by either the Medicare carrier (Aetna) or by the Department of Public Welfare in the administration of its program for medical indigents.

An "OSMA Medical Insurance Review Function" program was developed and implemented on July 1st for the purpose of "seeking the objective reconciliation of unusual medical insurance claims involving members of the OSMA and health insurance coverages which offer payment of customary and reasonable fees."

Approval of the review program was granted by both fiscal agents at the time Medicare began operation and the Department of Public Welfare launched its expanded Title XIX program and converted its payment system to the customary and reasonable fee concept.

Subsequently, the state association created a representative statewide Medical Insurance Review Committee and thirty county medical societies responded by appointing committees of their own to assume original jurisdiction.

The OSMA committee serves primarily in an appellate capacity, but may assume original jurisdiction upon authorization of the involved county medical society.

To utilize the Medical Insurance Review system, the carrier must meet the following conditions:

- The coverage involved must provide payment of customary and reasonable fees.

- All other appropriate avenues of settlement must have been attempted by the carrier directly with the physician.



● The physician should be advised by the carrier that the unusual nature of the claim requires its submittance for review.

● A "Medical Review Summary" form must be completed by the carrier in sufficient copies to provide one to each review committee member.

Having received a properly constituted and documented case for review, the committee should attempt to act within 14 days. The committee has the options of either finding in favor or against the physician's billed charges, and in the latter instance is obligated to recommend a reasonable fee for settlement.

Appeals from the decision of a committee having primary jurisdiction may be made to the OSMA committee by the patient, the physician or the carrier.

#### Few Cases Reviewed

Only a half-dozen cases have been referred to review committees by

Aetna since the inception of the Medicare program, and none have been reported to date by the Department of Public Welfare.

The paucity of claims submitted for review could mean that Oklahoma physicians' charges are found to be almost universally within the bounds of reasonableness, or it could mean that physicians are unaware of their rights to have unusual cases submitted to their professional peers for adjudication.

According to Doctor Scott Hendren, Chairman of the OSMA Governmental Relations Committee, "We want the review system to play an important role for both the carriers and the physicians in achieving an equitable settlement of disputed claims. The committees which have received referrals to date have acted objectively, and I hope greater use can be made of this system by all concerned in the future. The system provides the best hope we have to maintain the best possible relations with health insurance programs of this type."

## Anesthesiologist Receives Award

Walter H. Massion, M.D., anesthesiologist at the University of Oklahoma Medical Center, has been awarded a research career development award by the National Institutes of Health.

It is Doctor Massion's second five-year development award. The first was made by the National Institute of Neurological Diseases and Blindness. The new grant is from the National Institute of General Medical Sciences.

His major research interest is the treatment of shock with high energy compounds. He has found that injections of adenosine triphosphate (ATP) can reduce deaths from severe shock in animals.

Doctor Massion, a graduate of the University of Heidelberg School of Medicine, is associate professor of anesthesiology, surgery and physiology and a member of the Medical Center reimplantation team.



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## Customary Fees For Military Dependents

The latest government health care program to switch to payment of "customary and reasonable" fees for medical services is the Dependents Medical Care Program.

OSMA representatives and Blue Shield officials met with government authorities in Denver recently and reached agreement to abandon the outdated fixed fee schedule. Previously, Blue Shield had declined to renew its contract as fiscal agent for the program until an improved method of compensation could be realized.

Not only will better fees be paid, but the program has been expanded by action of the 89th Congress.

The former program was restricted to inpatient care for the dependents of servicemen. Now, however, retired military personnel and their dependents are eligible for both inpatient and outpatient services, and outpatient benefits have been extended to the dependents of active duty personnel.

Outpatient care is available for most conditions from private physicians, and retired military personnel and their dependents may receive inpatient care from civilian facilities without first checking the availability of military medical resources. Dependents of active duty personnel must still seek inpatient care from military installations, if available, but may go directly to private physicians for outpatient care.

Prescription drugs on an outpatient basis are provided under the expanded program.

The new payment system will be applied retroactively on all outpatient claims submitted since October 1st, and was initiated for inpatient services on February 1st.

OSMA action to convert to the new payment program was recommended last May by the Governmental Relations Committee and approved by the House of Delegates.

Scott Hendren, M.D., Maxwell A. Johnson, M.D., and B. C. Chatham, M.D., represented the OSMA in negotiations with government officials. □



Trichimonas Trigger and his oldest boy, Emmett—alias Doctor Jim Brown and Doctor Don Gose—bring every Singing Doctors' stage show to a rousing conclusion with "Hemorrhoids" and "The Menopause."

## Medical Technologists To Present Greene County Boys

The Oklahoma Society of Medical Technologists will feature the famed "Singing Doctors" from Springfield, Missouri, during their annual meeting, May 6th, 1967, in the Skirvin Hotel, Oklahoma City. The Greene County Boys, six specialists who have managed to sandwich in nationwide showbusiness activities along with their private practices, will present their one-hour "Medical Hit Parade" stage show.

"We readily admit to being the most 'hammy' doctors in history," grins the group's leader, master of ceremonies and lyric composer, James T. (Jim) Brown, M.D., chairman of the department of surgery at Springfield's St. John's Hospital. "When we finish a show you aren't likely to say, 'Aren't they fine singers,' but you surely will think to yourself, 'My don't they have a lot of guts!'"

Included in the stage performance and the albums are a variety of numbers by Doctor Brown; among them, "Those Birth Control Pills," "At Your Cervix," "Black and Blue Cross" and "Now That I'm a TV

Star (I Charge Much Larger Fees)." Charles E. Lockhart, M.D., also a surgeon, presents such memorable "hits" as "Appendectomy," "Pentothal Is A Ball" and "I'll Try to Say No" (otherwise known as "The Housecalls Song").

The "Four Suppositories"—Doctors Don F. Gose, F. T. H'Doubler, Jr., Fred C. Collier and Harold H. Lurie—offer their prescription for prostate problems, entitled "The Message Is Massage." And, as a zany finale, Doctors Brown and Gose croon the tender ballad, "Hemorrhoids," encoring with another of their classics, "The Menopause."

The Singing Doctors' purpose, however, is as serious as their songs are slapstick. Through the sale of the new "Singing Doctors on Stage" album and three earlier volumes, they have thus far provided 113 scholarship loans and grants to deserving young medical students.

Advance tickets for the program —\$3.00 each—are available from Mrs. Juanita Wilson, M.T., Valley View Hospital, Ada, Oklahoma. □



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## Opticians Bill Attracts Major Legislative Interest

A bill to register dispensing opticians under the regulatory control of the Oklahoma State Board of Medical Examiners is creating widespread interest among the members of the 31st Oklahoma Legislature.

The measure, House Bill 685, is actively sponsored by the Oklahoma State Medical Association, the Oklahoma Dispensing Opticians Association, the Oklahoma City Academy of Ophthalmology and Otolaryngology, and the Oklahoma Osteopathic Association.

Opposition is centered in the Oklahoma Optometric Association, the group which unsuccessfully sponsored a bill during the last legislative session which would have prohibited dispensing opticians from fitting contact lenses on an ophthalmologist's prescription.

The bill provides that certain standards of training be established and

that technical qualifications be met as requirements for registration as a dispensing optician. Since opticians have been ancillary agents to eye physicians for some 75 years, the authority for registration has been vested in the Board of Medical Examiners.

"H.B. 685 is designed to protect the public from unqualified practitioners in the optician field by setting standards for the formal recognition of technical competence," according to Raymond F. Hain, M.D., Chairman of the Oklahoma State Medical Association's Legislative Committee. "At the same time," he said, "its passage will prevent third party pressure groups from dictating to the ophthalmologists the technicians to whom they may refer their prescription work."

The dispensing optician fills lens prescriptions and fits glasses and contact lenses for both physicians and optometrists, but unlike these practitioners, he does not measure

vision nor prescribe lenses. Neither opticians nor optometrists are permitted to treat conditions of the eye.

H.B. 685 will establish special qualifications for dispensing opticians who plan to fit contact lenses.

Throughout the technical service performed by an optician, the course of work is directed and checked by the prescribing ophthalmologist who remains responsible for the final result.

Proponents of H.B. 685 point out that ample precedent has been set by the Oklahoma Legislature in controlling the standards of other professional and ancillary groups in the health service field.

Since the concerted opposition of the Oklahoma Optometric Association is expected to create controversy surrounding H.B. 685, the OSMA's Legislative Committee urges every association member to contact his state senator and representative regarding their support for the passage of this needed legislation. □

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## Counties Requested To Evaluate Osteopaths

Component societies of the Oklahoma State Medical Association have been contacted by the OSMA's Council on Professional and Intercultural Relations concerning the implementation of the association's "Program For Evaluation and Recognition of Doctors of Osteopathy."

Despite favorable House of Delegates action at its Annual Meeting in 1965 to relax the ethical barrier between medicine and osteopathy, few county medical societies have taken advantage of the permissive program to recognize individual osteopaths who practice according to scientific and ethical principles.

At the present time, only a handful of names have been submitted to the OSMA by county medical societies for publication in a proposed statewide list of approved osteopaths. According to Orange Welborn, M.D., Chairman of the Council on Professional and Intercultural Relations, "We are not pushing the county medical societies to implement this program at all, but we are a little surprised that more of them did not voluntarily elect to implement the program as a means of easing interprofessional relationships and thus improving patient care."

An osteopath who achieves professional recognition under the program will not automatically derive any direct or personal benefits from such action. The recognition will simply permit a Doctor of Medicine—by his own choice—to exchange medical information, provide consultative service, or to otherwise assist in the care of a patient who is the primary responsibility of the osteopath. Thus, medical ethics will be refined and delineated, and improved professional care can be afforded to patients of recognized osteopaths.

Conversely, recognition of an individual osteopath for professional association purposes shall not affect medical society membership, nor shall it nullify any existing ethical principles involving osteopaths collectively. The granting of medical

staff privileges will remain the prerogative of each individual hospital.

### Recommended Requirements

In the suggested implementation of the new program which has been sent to county medical societies on at least two occasions, the following criteria have been proposed as means of evaluation:

1. The osteopath must be fully qualified to practice osteopathic medicine and surgery under Oklahoma laws.

2. He must practice a method of healing founded on the principles of scientific medicine.

3. He must in good faith endeavor to conform to ethical principles equivalent to the Principles of Medical Ethics of the AMA.

4. His professional and scientific competence must be such that he can give his patient scientific medical care and make contributions to programs to maintain and improve the health of the community.

The OSMA has also suggested to county medical societies that osteopaths be required to make written application to achieve professional recognition, and that at least two members of the medical society should endorse an osteopathic application before it is considered by the society as a whole. A sample application form has been furnished to all county medical societies for use in implementing this program.

It is the plan of the OSMA to maintain a central registry of recognized osteopaths, and to circulate a roster of such osteopaths to all Doctors of Medicine at least annually. Thus, medical doctors receiving requests for consultations from osteopaths with whom they are not familiar may simply check the list of recognized osteopaths to ascertain their acceptance by M.D.'s who know them.

The list of recognized osteopaths will also be furnished to the University of Oklahoma School of Medicine as a guideline for extending invitations to attend postgraduate courses at the school. Osteopaths may be removed from the approved list by the county medical society at any time. □

## Max Johnson To Lead OSMA

At inaugural ceremonies for May 13th during the Oklahoma State Medical Association's annual meeting in Tulsa, Maxwell A. Johnson, M.D., will be installed as OSMA President.

The Tulsa urologist was named President-Elect of the association at the 1966 annual meeting of the OSMA House of Delegates. He will succeed Ennis M. Gullatt, M.D., Ada, as leader of the OSMA's 2,006 members.

Doctor Johnson was born in Chicago and received his higher education from the University of Chicago, where he was awarded a Bachelor of Science degree in 1941 and his medical diploma in 1943.

Residency training was obtained at the University of Indiana Medical Center, the University of Chicago Clinics, and LaCrosse Lutheran Hospital. Professional organizations include the American Board of Urology, American Urological Association and the American College of Surgeons. □

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## Legislative Digest

The following bills of interest to the medical community have been introduced into the Oklahoma legislature for consideration. The italicized portion at the end of each bill digest is the OSMA policy position or information of interest to physicians.

### Senate Bills

SB 5: Murphy: A law permitting certain state agencies to hire non-citizens of the United States. Will not affect present physician licensing laws. Similar to HB 517. *OSMA: Endorsed.*

SB 20: Nichols: An act creating a Water Commission in the State Health Department and authorizing proceedings before same for water pollution. *OSMA: Endorsed and will support through news media.*

SB 21: Berrong & Gee: An act relating to establishment of uniform health and accident insurance for state employees. Amended in committee to provide for plan options. *OSMA: Endorsed.*

SB 27: Martin: An act empowering Board of Health to regulate, police, and plan air quality and air pollution control. *OSMA: Endorsed.*

SB 28: Smith: Providing for blood test to determine whether a driver is under the influence of alcohol. Test to be administered by a physician, nurse or medical technician. Similar to HB 564. *OSMA: Endorsed.*

SB 32: Birdsong: Amending the uniform narcotic drug act and authorizing the Oklahoma Drug Commission to classify products as dangerous drugs. *OSMA: Endorsed.*

SB 50: Murphy: Prohibiting the exclusion of Optometrists from medical and hospital service plans and public assistance programs. *OSMA: Opposed as not being in best interest of public health.*

SB 66: Grantham (S) & Conaghan, Peterson (H): Providing immunity for physician treating minor under emergency conditions without consent of parent or guardian. *OSMA: Endorsed as a needed change in the*

*"Good Samaritan Act."*

SB 95: Young, Birdsong & others: Providing claimant or attorney may ascertain existence of liability insurance, the amount and provisions, in damage cases. *OSMA: Opposed as it would probably raise amounts sought in physician liability suits.*

SB 116: Garrett: Prohibiting any practitioner of healing arts from advertising, including Chiropractors. *OSMA: Sponsored and Endorsed.*

SB 126: Baldwin, Miller: Appropriating \$75,000 to be expended by medical examiners and board of unexplained deaths. *OSMA: Endorsed, but encourages working for an additional \$25,000.*

SB 149: Martin (S) Sparkman (H): Creating Oklahoma Board of Nurse Registration and Education. *OSMA: Endorsed. Contains three proposals earlier approved by Legislative Committee.*

SB 176: Romang: Concerning use of blood test to determine issue of paternity in civil or criminal action. *OSMA: Endorsed.*

SB 183: Baldwin: Permissive legislation to allow the people in an area without hospital facilities to form a hospital district and levy a special assessment to build and maintain such facilities. Such district can only be formed by at least 50 per cent of the taxpayers in said district agreeing to do so by vote. *OSMA: Endorsed.*

SB 186: Garrett (S), Cox & Brown (H): Appropriating \$965,694 for use by State Health Department to establish, maintain and operate child guidance center program. *OSMA: Holding for study.*

SB 216: Nichols: Similar to HB 551, see below.

### House Bills

HB 551: Sparkman (H), Graves (S): Fixing minimum requirements for physical facilities for nursing, rest or specialized homes. *OSMA: Endorsed (similar to SB 216).*

HB 552: Sparkman (H), Romang (S): Authorizing the Health Department to establish Family Planning Centers and to set fees for applicants able to pay. *OSMA: Approves concept, opposes collection of fees.*

HB 553: Sparkman (H), Graves (S): Providing for cooperative departments of health among counties, districts, or cities and towns; providing for collection of fees and expanding services to be offered, to include nursing and physical and occupational therapy, "... and other appropriate services to patients in their homes." *OSMA: Approves the concept, opposes collection of fees since services should be provided to indigent only.*

HB 619: Spearman: Requiring identification cards be issued agents licensed to sell life and health and accident insurance. *OSMA: Endorsed.*

HB 666: Sparkman: Establishing a smoking and health director in the State Health Department and appropriating funds for related program. *OSMA: Endorsed.*

HB 667: Poulos: Requiring attendance of physician at certain sporting events. *OSMA: Endorsed.*

HB 685: Bradley, Spearman and Bynum: Providing for registration, re-registration and examination of dispensing opticians. *OSMA: Endorsed.*

HB 696: Brown, Cox, Briscoe: Providing for temporary hospitalization of persons who may need mental treatment; physicians immunity from civil damages. *OSMA: Further study required.*

### Resolutions

SR 5: Martin: Expressing intent that Department of Welfare inform applicants for ADC that payments are for use and benefit of the children involved. *OSMA: Endorsed.*

HJR 511: Sokolosky, Bamberger, Miskelly and others: Requesting a Governor's committee to study Oklahoma's program for aid to families with dependent children, with special emphasis on the problem of illegitimacy. *OSMA: Endorsed.*

HJR 522: Sparkman: Authorizing Department of Welfare to make available to persons receiving public assistance, educational materials and information with respect to planned parenthood; authorizing payment for medical services. *OSMA: Endorsed.* □

## Health Careers Council Planned

A proposal to create "The Oklahoma Council for Health Careers" is being studied by interested professional organizations, including the Oklahoma State Medical Association.

It has been recommended that a centralized operation be launched "to coordinate, develop, facilitate, maintain and promote programs or other activities calculated to interest individuals in choosing and preparing for careers in the health services."

Most major health professions and ancillary groups have recognized the severe personnel shortages which must be filled in order to meet expanded demand for health services. The proposed council, to be financed and staffed on a cooperative basis by various professional organizations, has been suggested as a means of generally enlarging health career recruitment activities.

The proposal is being studied by an OSMa committee and the Board of Trustees. OSMa participation, according to the terms of the program, would require an annual contribution of \$4,000. □

## INA Changeover Makes Progress

The vast majority of OSMa physicians are converting their professional liability insurance policies to the Insurance Company of North America as recommended by the association's House of Delegates on December 10th.

Reports on January and February renewals indicate that physicians recognize the value of the OSMa-approved plan as well as the desirability of establishing the broadest possible enrollment in a single program.

OSMa's change of endorsement to INA came after years of dissatisfaction with the former carrier. Members of the association are urged by the OSMa Council on Insurance to convert to the new plan when their present policies expire.

INA coverage is available from the insurance company's agents throughout the state. However, in

cases where there is no INA agent in a community, the coverage may be brokered through any insurance agent of the physician's choice.

INA's present rates are slightly under the standard rates for this area, but the association's agreement with the company includes the prospect of a dividend if justified by favorable loss experience. Moreover, an effective claims prevention program will be sponsored by the company and accurate loss reports to the association's Council on Insurance will insure fair treatment in the establishment of future premium rates. □

## Symposium Planned For Tulsa

All Oklahoma physicians are invited to attend a day-long Symposium on Diseases of the Liver and Pancreas to be held on Wednesday, April 5th, 1967, at the Camelot Inn in Tulsa.

The event is sponsored by the Tulsa County Medical Society in cooperation with Lederle Laboratories.

Five nationally known medical personalities will appear as visiting distinguished guest speakers. They are Stanley R. Friesen, M.D., Associate Professor of Surgery, University of Kansas School of Medicine, Kansas City, Kansas; Frederick Stiegmann, M.D., Associate Professor of Medicine, University of Illinois School of Medicine, Chicago, Illinois; Hugh B. Lynn, M.D., Pediatric Surgeon, Mayo Clinic, Rochester, Minnesota; Beverly T. Mead, M.D., Chairman of the Department of Psychiatry, Creighton University School of Medicine, Omaha, Nebraska; and E. Clinton Texter, Jr., M.D., Associate Professor of Medicine, Northwestern University School of Medicine, Chicago, Illinois.

A special feature will be a complimentary luncheon for both physicians and wives, with Doctor Mead speaking on the subject of "Getting Along with our Teenagers." Following the luncheon special entertainment for the ladies will feature a style show at the Virginia Garrison Shop in nearby London Square.

For accommodations write to the Camelot Inn, 4956 South Peoria, Tulsa, Oklahoma. □

## Respiratory Disorders Topic For Seminar

The Department of Pediatrics and the Office of Postgraduate Education of the University of Oklahoma School of Medicine have announced a postgraduate seminar in "Respiratory Disorders in Infants and Childhood" to be held April 12th-14th, 1967, in the school auditorium.

This two and one-half days of lecture and round-table discussions will provide comprehensive coverage of all types of respiratory disorders in infants, children and adolescents—respiratory disorders of the perinatal period, acute and chronic infections, new vaccines, certain "new" diseases and therapeutic methods of respiratory disorders.

An outstanding faculty will consist of: Mary Ellen Avery, M.D., Johns Hopkins University School of Medicine, Baltimore, Maryland; Robert J. Izant, M.D., Western Reserve University School of Medicine, Cleveland, Ohio; Harry M. Meyer, Jr., M.D., National Institutes of Health, Bethesda, Maryland; Waldo E. Nelson, M.D., Women's Medical College, Philadelphia, Pennsylvania; and Douglas R. Shanklin, M.D., University of Florida Medical Center, Gainesville, Florida.

A detailed program is available from the Office of Postgraduate Education, University of Oklahoma Medical Center, 800 N.E. 13th Street, Oklahoma City, Oklahoma 73104. □

## DEATH

AUGUSTIN H. SHI, M.D.

1876-1967

A 93-year-old, pioneer, Stratford physician, Augustin H. Shi, M.D., died in Ada, February 26th, 1967.

A native of Forsythe, Georgia, Doctor Shi came to Old McGee, Indian Territory in 1896, where he began his practice. In 1904, he moved to Stratford where he remained until his retirement in 1965.

Doctor Shi had received dual honors from the Oklahoma State Medical Association. In 1948, he was presented a Fifty-Year Pin and in 1950, he was given a Life Membership. □



## BOOK REVIEWS

**DIABETES FOR DIABETICS.** By George F. Schmitt, M.D., F.A.C.P. Diabetes Press of America, Inc., 30 S.E. 8th St., Miami, Florida 33131. (\$5.95 prepaid.)

The latest book published for diabetics is *Diabetes for Diabetics* by an outstanding, practicing diabetologist, George F. Schmitt, M.D.

Realizing the need for educating the millions of diabetics with basic information about their disorder, the author has written this completely different, practical guide for diabetics. Doctor Schmitt clearly explains the cause and treatment of diabetes, as well as its complications and problems, in simple terms which laymen can understand.

A large section on diet, including the most complete food exchange lists ever published, contains information on purchase, preparation and selection of foods.

Insulin and oral antidiabetic drugs are discussed in detail. A chapter on urine testing for sugar and acetone shows step-by-step procedures for these tests, and explains why urine testing is so important for good control.

Many problems of daily living such as marriage, pregnancy, employment and insurance are discussed. In addition Doctor Schmitt stresses the importance of good hygiene, care of the feet, eyes, skin, hands and teeth.

In addition to over two hundred colored photographs the diabetic will find most helpful the unique feature of self-testing lists of questions at the end of each chapter.—Reprinted from "Diabetes in the News," July-August-September 1966 Edition

**OCULAR PHARMACOLOGY.** By William H. Havener. First edition, cloth, 456 pp. 198 figures. St. Louis, The C. V. Mosby Company, 1966.

The purpose of this text, as indicated by the author, Dr. William Havener, Professor of Ophthalmology at Ohio State University, is to compile for ready reference the pharma-

cologic information which has appeared in the eye literature during the past several decades.

The motivation intended by the author is to help develop sound pharmacologic judgment, which will permit scientifically rational use of preferred medications for the treatment of accurately diagnosed ocular problems.

These purposes are most aptly achieved with adequate description, practical application, and rather complete coverage of the major fields of ocular pharmacology.

Old "stand bys" of treatment, as well as the newer synthetic antibiotics and antiviral agents are dis-

cussed in regard to preferred mode of administration, spectrum, dosage and toxicity.

The scope of the text varies somewhat from the standard textbooks of ocular pharmacology in including appropriate discussion on enzymatic zonulysis, uses of fluorescein, germicides, radiopaque contrast media, and vasodilators. A most appropriate editorial comment on the importance of labeling prescribed medications with the name of the drug completes the text.

It would appear to this reviewer that the purposes of the text have been achieved by the author admirably.—Thomas E. Acers, M.D. □

## Miscellaneous Advertisements

**CLINICAL RESEARCH.** Transfer of a clinical research program in aviation medicine to Oklahoma has created career Civil Service job opportunities for qualified physicians in ophthalmology, internal medicine, neurology and psychiatry. Research experience and an interest in aviation are required for work in this unique and challenging program to determine the physical and mental fitness of airmen. Ultra modern facilities. Starting salary to \$18,157. Liberal fringe benefits. Relocation expenses paid. License not required initially. Academic activities encouraged. Part-time practice permitted. Equal opportunity employer. Please send your curriculum vita to: Chief, Civil Aeromedical Institute, Federal Aviation Agency Aeronautical Center, P.O. Box 25082, Oklahoma City, Oklahoma 73125.

**SOLO GENERAL PRACTICE** for sale. Western Oklahoma. Net income \$30,000 to \$35,000. Contact Key C. The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

**FOR SALE:** Office equipment. Have quit practice. Contact John F. Kupka, M.D., Haskell, Oklahoma.

**PRACTICE OPPORTUNITY** for two general practitioners in community of 1,200 population, trade area of 7,000. 19-bed hospital just completed and new clinic building with complete facilities for each doctor. Contact Jerry Jannette, Administrator, Seiling Hospital, Seiling, Oklahoma.

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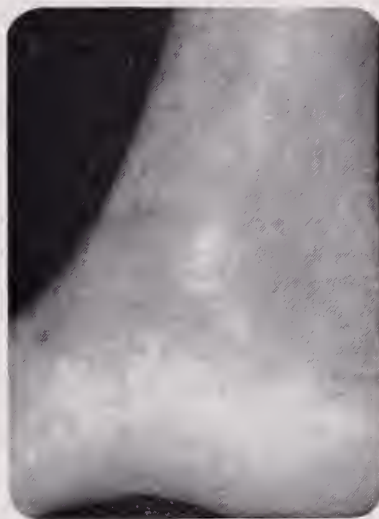
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*Administration and Dosage:* Apply sparingly to the affected area 3 or 4 times daily. Some cases of psoriasis may be more effectively treated if the 0.1% Cream or Ointment is applied under an occlusive dressing.

*Contraindications:* Tuberculosis of the skin, herpes simplex, chicken pox and vaccinia.

*Precautions and Side Effects:* Do not use in the eyes or in the ear (if drum is perforated). A few individuals react unfavorably under certain conditions. If side

effects are encountered, the drug should be discontinued and appropriate measures taken. Use on infected areas should be attended with caution and observation, bearing in mind the potential spreading of infection and the advisability of discontinuing therapy and/or initiating antibacterial measures. Generalized dermatological conditions may require systemic corticosteroid therapy. Steroid therapy, although responsible for remissions of dermatoses, especially of allergic origin cannot be expected to prevent recurrence. The use over extensive body areas, with or without occlusive non-permeable dressings, may result in systemic absorption. Appropriate precautions should be taken. When occlusive nonpermeable dressings are used, miliaria, folliculitis and pyoderma will sometimes develop. Localized atrophy and striae have been reported with the use of steroids by the occlusive technique. When occlusive nonpermeable dressings are used, the physician should be aware of the hazards of suffocation and flammability. The safety of use on pregnant patients has not been firmly established. Thus, do not use in large amounts or for long periods of time on pregnant patients.

Available in 5 Gm. and 15 Gm. tubes and ½ lb. jars.

PHOTOGRAPHS COURTESY OF M. M. NIERMAN, M.D.

## Aristocort®

Topical Ointment 0.1% and Cream 0.1%, 0.5%  
Triamcinolone Acetonide

Also available in foam form.

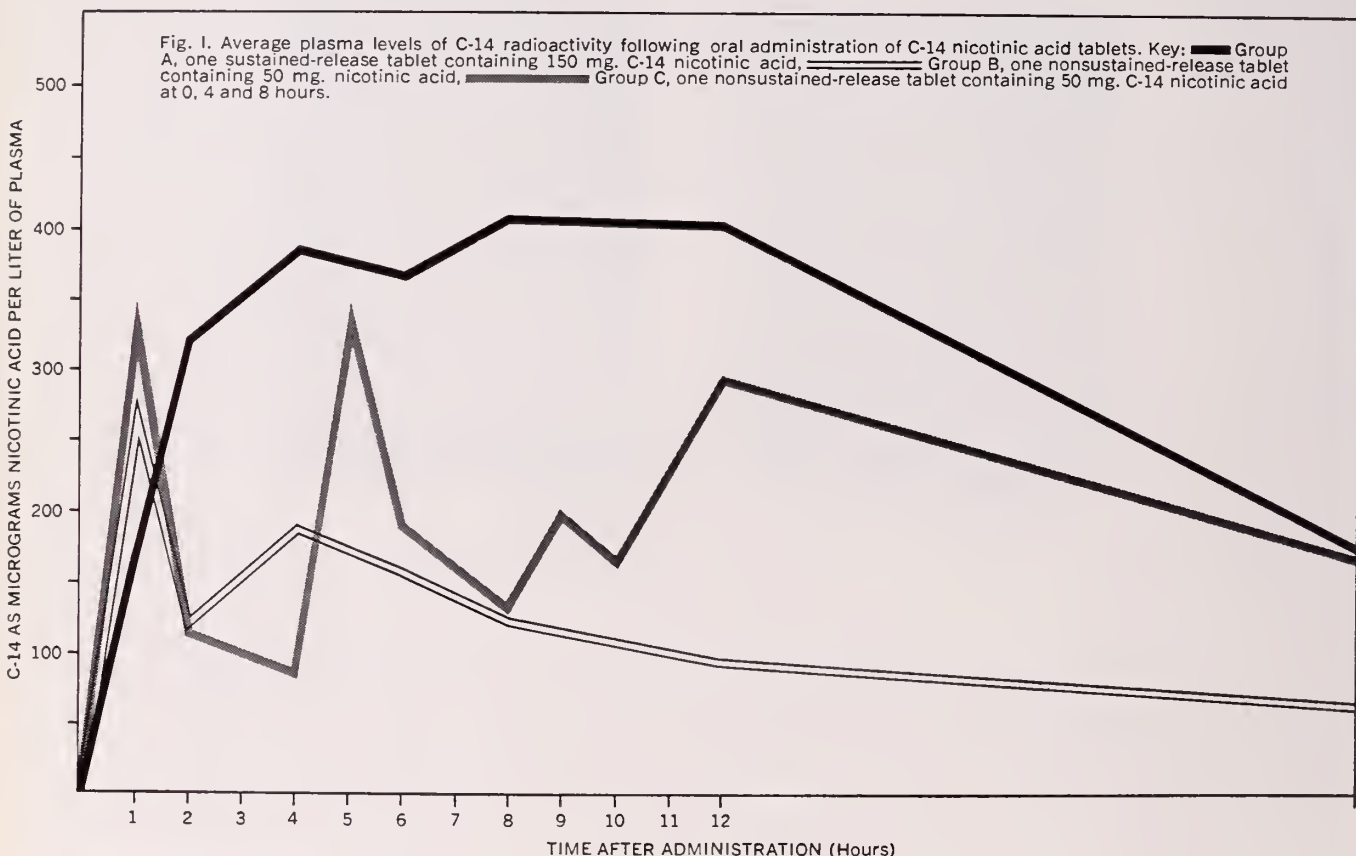


LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York

406-G

# Sustained circulatory, respiratory, and cerebral stimulation for the

Fig. 1. Average plasma levels of C-14 radioactivity following oral administration of C-14 nicotinic acid tablets. Key: — Group A, one sustained-release tablet containing 150 mg. C-14 nicotinic acid, — Group B, one nonsustained-release tablet containing 50 mg. nicotinic acid, — Group C, one nonsustained-release tablet containing 50 mg. C-14 nicotinic acid at 0, 4 and 8 hours.



(fewer absent doses by  
absent-minded patients)

Human volunteer subjects were administered Geroniazol TT tablets with the nicotinic acid component made radioactive with C-14. Plasma and urine samples were analyzed. (See Figures I and II) The radioactive tracer study substantiated the previous clinical evidence that the release of nicotinic acid from the Geroniazol TT tablet produced a gradual rise in plasma levels to a plateau for a total of 12 hours and more.

Such proven sustained activity makes the management of geriatric patients much easier by minimizing the possibility of neglected doses through absent-

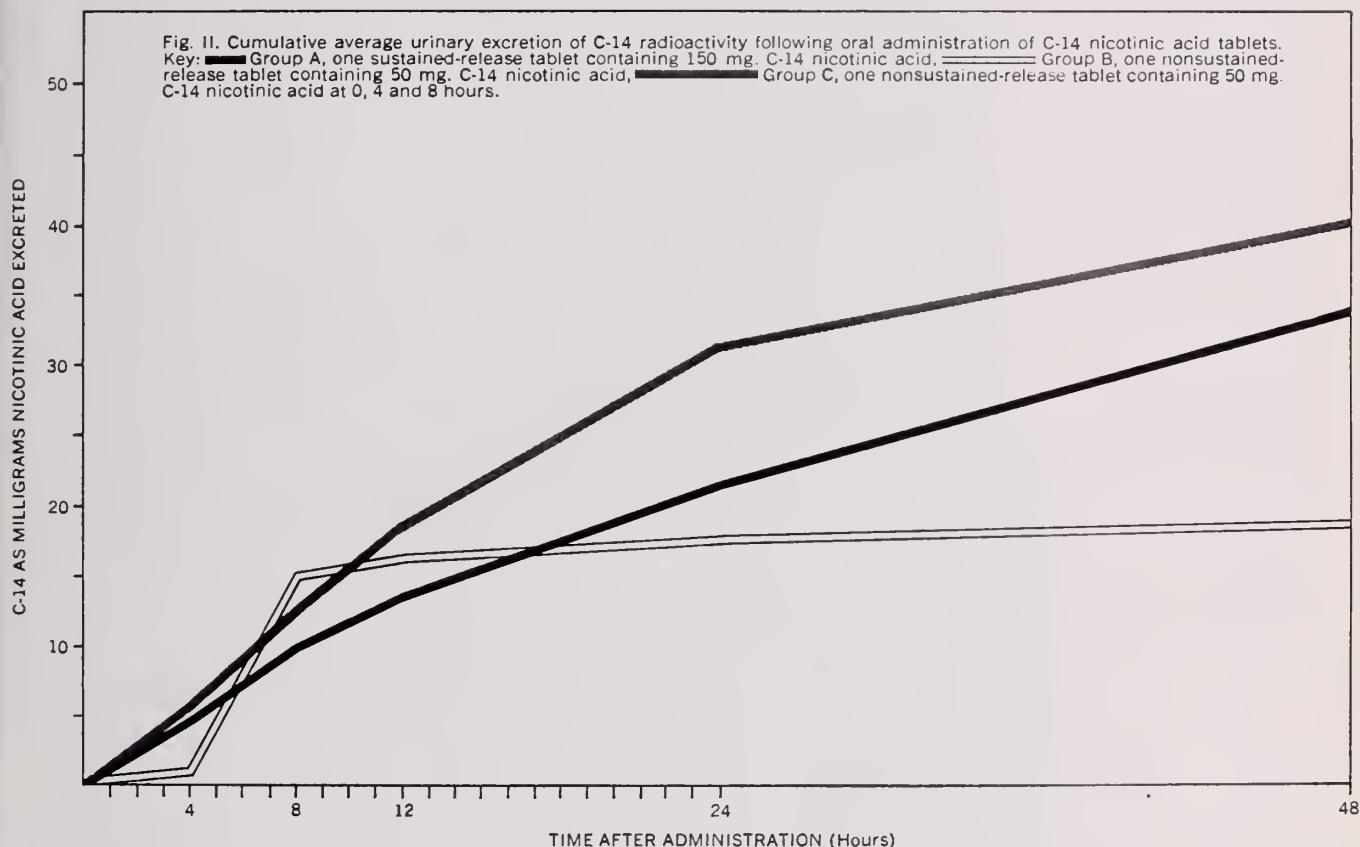
mindedness or senile confusion. Therapy *can* be continuous on a daily dose of only one Geroniazol TT tablet every 12 hours.

The gradual release of nicotinic acid in Geroniazol TT will provide the well-known peripheral vasodilation needed in patients with deficient circulation and with a minimum amount (if any) of "flushing." Also, cerebrovascular circulation is complemented by pentylenetetrazol, long-established as a cerebral and respiratory stimulant.

Geroniazol TT improves the typical, unfortunate, signs of senile confusion. Patients become more alert,

# ged and debilitated

Fig. II. Cumulative average urinary excretion of C-14 radioactivity following oral administration of C-14 nicotinic acid tablets. Key: — Group A, one sustained-release tablet containing 150 mg. C-14 nicotinic acid, — Group B, one nonsustained-release tablet containing 50 mg. C-14 nicotinic acid, — Group C, one nonsustained-release tablet containing 50 mg. C-14 nicotinic acid at 0, 4 and 8 hours.



less confused and moody. Personal care, memory, emotional stability, social attention improve. Fatigue, apathy and irritability are reduced.

A prescription for 100 tablets of Geroniazol TT will permit your patients to enjoy the benefits of time-prolonged nicotinic acid/pentylenetetrazol therapy, at an economical price. Dosage is only one tablet every 12 hours.

**Contraindications:** There are no known contraindications.

**Precautions:** Exercise caution when treating patients with a low convulsive threshold.

**Side Effects:** Side effects are rarely encountered, however due to the vasodilatation effect of nicotinic acid, transitory mild nausea, flushing, tingling and pruritus are possible.

**Dosage:** One tablet every 12 hours.

**Supplied:** Prescribe bottles of 100 tablets, to take advantage of recent price reduction.

**References:** 1. Report by Nuclear Science & Engineering Corp., Pittsburgh, Pa., in files of Philips Roxane Laboratories. 2. Connolly, R.: W. Virginia Med. J. 56:263 (Aug.) 1960. 3. Curran, T. R., and Phelps, D. K.: Am. Pract. & Digest Treat. 11:617 (July) 1960.



"First with the Retro-Steroids"

PHILIPS ROXANE LABORATORIES

Division of Philips Roxane, Inc., Columbus, Ohio

A Subsidiary of Philips Electronics and Pharmaceutical Industries Corp.

# Geroniazol<sup>®</sup> TT

nicotinic acid 150 mg., pentylenetetrazol 300 mg.

Tempotrol<sup>®</sup> Time Controlled Tablet





*"George wants to know if it's okay to take his cold medicine now, Doctor, instead of seven o'clock?"*



The long-continued action of Novahistine LP should help you both get a good night's sleep. Two tablets in the morning and two in the evening will usually provide round-the-clock relief by helping clear congested air passages for freer breathing. Novahistine LP also helps restore normal mucus secretion and ciliary activity—normal physiologic defenses against infection of the respiratory tract. Use cautiously in individuals with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Caution ambulatory patients that drowsiness may result. Each Novahistine LP tablet contains: phenylephrine hydrochloride, 25 mg., and chlorpheniramine maleate, 4 mg.

## NOVAHISTINE<sup>®</sup> LP



**PITMAN-MOORE** Division of The Dow Chemical Company, Indianapolis



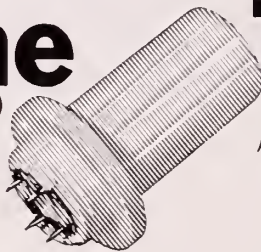
# what time is it?

For the past  
two years  
there's been  
one new case  
of active tuberculosis  
reported for every  
four thousand  
of U.S. population.

## it's time to time.

### Tuberculin, Tine Test

(Rosenthal)



Lederle

Available in 5's and 25's.  
Order now  
from your pharmacist  
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representative.

LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York

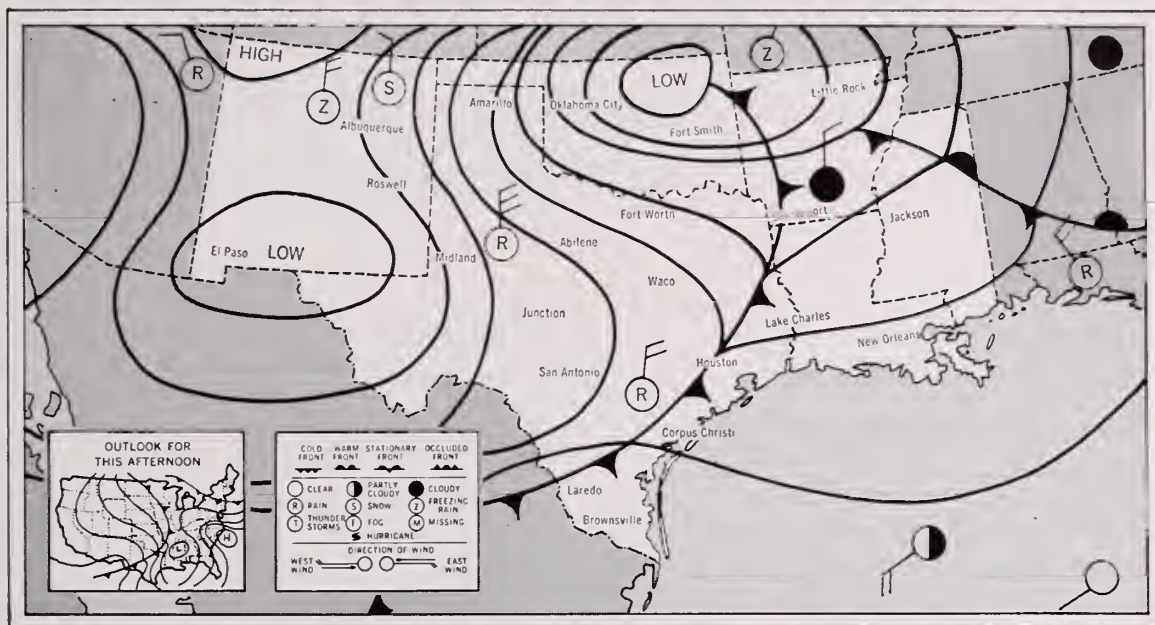
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# REGIONAL WEATHER FORECAST

Heavy Rains, Local Flooding, Sleet and Snow Followed by Cough, Stuffed and Runny Noses and Aches and Pains.



Tussagesic breaks up coughs, quickly clears stuffed and runny noses and relieves aches and pains. Provide coverage of the tough cold for up to 24 hours with just a single timed-release tablet dosed morning, midafternoon and at bedtime.

each

# Tussagesic®

**timed-release tablet contains:**

Triaminic®	50 mg.
(phenylpropanolamine hydrochloride 25 mg., pheniramine maleate 12.5 mg., pyrilamine maleate 12.5 mg.)	
Dextromethorphan hydrobromide	30 mg.
Terpin hydrate	180 mg.
Acetaminophen	325 mg.

**Dosage:** Adults—1 tablet, swallowed whole to preserve timed-release feature, in morning, midafternoon and at bedtime. **Side effects:** Occasional drowsiness, blurred vision, cardiac palpitations, flushing, dizziness, nervousness or gastrointestinal upsets. **Precautions:** The patient should be advised not to drive a car or operate dangerous machinery if drowsiness occurs. Use with caution in patients with hypertension, heart disease, diabetes or thyrotoxicosis.

**DORSEY LABORATORIES • a division of The Wander Company • LINCOLN, NEBRASKA**

# Norinyl<sup>®</sup> tablets

(norethindrone 2 mg,  $\bar{c}$  mestranol 0.1 mg.)

**for multiple contraceptive action that has  
produced a record of unexcelled effectiveness**

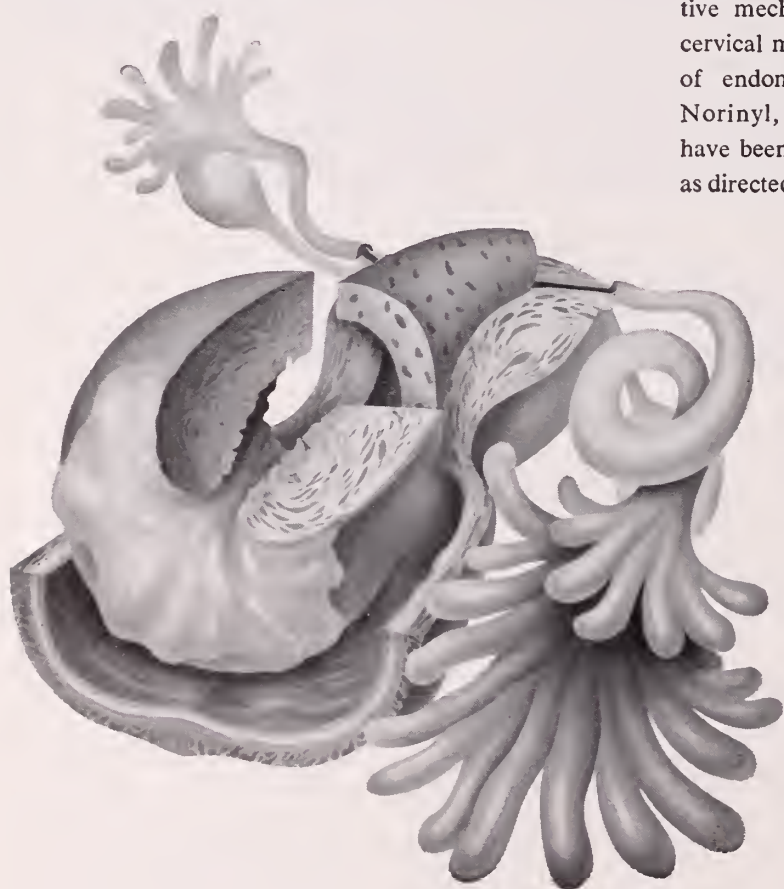
**inhibition of ovulation by means of  
2 time-proved hormonal agents**

**production of a cervical mucus hostile to  
sperm motility and vitality**

**creation of an endometrium unreceptive  
to egg implantation**

**no unplanned pregnancies**

Norinyl provides multiple action for maximum assurance of success. It does not depend on ovulation inhibition alone for contraceptive effectiveness. The mechanism of action of combined hormonal therapy results in ovulation inhibition reinforced by other protective mechanisms, including a hostile cervical mucus<sup>1-13</sup> and an acceleration of endometrial changes.<sup>1-3,7-16</sup> With Norinyl, no unplanned pregnancies have been reported to date when used as directed.



# plus important supportive benefits that help her through those critical early months of oral contraception

## low incidence of side effects

Low incidence of BTB and spotting, nausea and amenorrhea tends to minimize side effect problems and increases patient cooperation.

## no confusion about dosage

An unbreakable "confusionproof" package makes it easy to adhere to prescribed dosage schedule: individually sealed tablets numbered from 1 through 20 *plus* monthly calendar record enables patient to double-check dosage intake by day and corresponding tablet number.



**Contraindications:** Thrombophlebitis or pulmonary embolism (current or past). Existing evidence does not support a causal relationship between use of Norinyl and development of thromboembolism. While a study which was conducted does not resolve definitively the possible etiologic relationship between progestational agents and intravascular clotting, it tends to con-

firm the findings of the Ad Hoc Advisory Committee appointed by the Food and Drug Administration to review this possibility. Cardiac, renal or hepatic dysfunction. Carcinoma of the breast or genital tract. Patients with a history of psychic depression should be carefully studied and the drug discontinued if depression recurs to marked degree. Patients with a history of cerebral vascular accident.

**Warning:** Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions, medication should be withdrawn.

**Precautions:** By May 1963, experience with norethindrone 2 mg.—mestranol 0.1 mg. had extended over 24 months. Through miscalculation, omission or error in taking the recommended dosage of Norinyl, pregnancy may result. If regular menses fail to appear and treatment schedule has not been adhered to, or if patient misses two menstrual periods, possibility of pregnancy should be resolved before resuming Norinyl. If pregnancy is established, Norinyl should be discontinued during period of gestation since virilization of the female fetus has been reported with oral use of progestational agents or estrogen. When lactation is desired, withhold Norinyl until nursing needs are established. Existing uterine fibroids may increase in size. In metabolic or endocrine disorders, careful clinical preevaluation is indicated. A few patients without evidence of hyperthyroidism had elevated serum protein-bound iodine levels, which in the light of present knowledge, does not necessarily imply hyperthyroidism. Protein-bound iodine increased following estrogen administration. Bromsulphalein retention has occurred in up to 25% of patients without evidence of hepatic dysfunction. Studies from 24-hour urine collections have shown an increase in aldosterone and 17-

ketosteroids and decrease in 17-hydroxycorticoid levels. Thus, Norinyl should be discontinued prior to and during thyroid, liver or adrenal function tests. Because progestational agents may cause fluid retention, conditions such as epilepsy, migraine and asthma require careful observation. Thus far no deleterious effect on pituitary, ovarian or adrenal function has been noted; however, long-range possible effect on these and other organs must await more prolonged observation. Norinyl should be used with caution in patients with bone, renal or any disease involving calcium or phosphorus metabolism. **Side Effects:** Intermenstrual bleeding; amenorrhea; symptoms resembling early pregnancy, such as nausea, breast engorgement or enlargement, chloasma and minor degree of fluid retention (if these should occur and patient has not strictly adhered to medication plan, she should be tested for pregnancy); weight gain; subjective complaints such as headache, dizziness, nervousness, irritability; in a few patients libido was increased. In a total of 3,090 patients, 2.2% discontinued medication because of nausea.

**NOTE:** See sections on contraindications and precautions for possible side effects on other organ systems.

**Dosage and Administration:** One Norinyl tablet orally for 20 days, commencing on day 5 through and including day 24 of the menstrual cycle. (Day 1 is the first day of menstrual bleeding.)

**Availability:** Dispensers of 20 and 60 tablets; bottles of 100.

**References:** 1. Council on Drugs. JAMA 187:664 (Feb. 29) 1964. 2. Bryans, F. E.: Canad Med Ass J 92:287 (Feb. 6) 1965. 3. Goldzieher, J. W.: Med Clin N Amer 48:529 (Mar.) 1964. 4. Cohen, M. R.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965. 5. Hammond, D. O.: Ibid. 6. Rice-Wray, E. J., Goldzieher, J. W., and Aranda-Rosell, A.: Fertil Steril 14:402 (Jul.-Aug.) 1963. 7. Goldzieher, J. W., Moses, L. E., and Ellis, L. T.: JAMA 180:359 (May 5) 1962. 8. Kempers, R. D.: GP 29:88 (Jan.) 1964. 9. Tyler, E. T.: JAMA 187:562 (Feb. 22) 1964. 10. Rudel, H. W., Martinez-Manautou, J., and Maqueo-Topete, M.: Fertil Steril 16:158 (Mar.-Apr.) 1965. 11. Flowers, C. E., Jr.: N Carolina Med J 25:139 (Apr.) 1964. 12. Goldzieher, J. W.: Appl Ther 6:503 (June) 1964. 13. The Control of Fertility. Report adopted by the Committee on Human Reproduction of the American Medical Association. JAMA 194:462 (Oct. 25) 1965. 14. Flowers, C. E., Jr.: JAMA 188:1115 (June 29) 1964. 15. Merritt, R. I.: Appl Ther 6:427 (May) 1964. 16. Newland, D. O.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965.

norethindrone—an original steroid from  
**SYNTEX**  
LABORATORIES INC. PALO ALTO, CALIF.

**Norinyl**<sup>®</sup> tablets  
(norethindrone 2 mg. • mestranol 0.1 mg.)

for multiple contraceptive action



for that added measure of protection

# SIGNE M

## A 'MAXIMUM SECURITY' ANTIBIOTIC\*

- \* **THE BROAD RANGE DEPENDABILITY OF TETRACYCLINE**  
long established as the broad-spectrum agent of first choice in a wide variety of infections
- \* **WITH THE ADDED SECURITY OF MEDIUM-SPECTRUM REINFORCEMENT**  
triacteyloleandomycin is highly active against the common 'coccal' pathogens, including certain strains of staphylococci resistant to penicillin and tetracycline
- \* **ESPECIALLY VALUABLE IN U.R.I.**  
provides decisive therapy in acute respiratory infections and other conditions in which staphylococci, streptococci or mixed flora are frequently encountered
- \* **NOW AVAILABLE IN NEW STRENGTH FOR NEW CONVENIENCE AND ECONOMY**  
Signemycin 375 — high-potency capsules for simpler administration, greater patient economy

# MYCIN<sup>®</sup> 375

(tetracycline HCl 250 mg.  
triacetyloleandomycin 125 mg.)

**Indications:** Indicated in the therapy of acute severe infections caused by susceptible organisms and primarily by bacteria more sensitive to the combination than to either component alone. In any infection in which the patient can be expected to respond to a single antibiotic, the combination is not recommended. Signemycin should not be used where a bacteriologically more effective or less toxic agent is available. *Triacetyloleandomycin*, a constituent of *Signemycin*, has been associated with deleterious changes in liver function. See precautions and adverse reactions.

**Contraindications:** Contraindicated in individuals who have shown hypersensitivity to any of its components. Not recommended for prophylaxis or in the management of infectious processes which may require more than 10 days of continuous therapy. If clinical judgement dictates therapy for longer periods, serial monitoring of liver function is recommended. Not recommended for subjects who have shown abnormal liver function tests, or hepatotoxic reactions to triacetyloleandomycin.

**Precautions and Adverse Reactions:** *Triacetyloleandomycin*, administered to adults in daily oral doses of 1.0 gm. for 10 or more days, may produce hepatic dysfunction and jaundice. Adults requiring 3 gm. of *Signemycin* initially should have liver function followed carefully and the dosage should be reduced as promptly as possible to the usual recommended range of 1.0 to 2.0 gm. per day. Present clinical experience indicates that the observed changes in liver

*function are reversible after discontinuation of the drug.*

Use with caution in lower than usual doses in cases with renal impairment to avoid accumulation of tetracycline and possible liver toxicity. If therapy is prolonged under such circumstances, tetracycline serum levels may be advisable. In long term therapy or with intensive treatment or in known or suspected renal dysfunction, periodic laboratory evaluation of the hematopoietic, renal and hepatic systems should be done. Formation of an apparently harmless calcium complex with tetracycline in any bone forming tissue may occur. Use of tetracycline during tooth development (3rd trimester of pregnancy, infancy and early childhood) may cause discoloration of the teeth. Reversible increased intracranial pressure due to an unknown mechanism has been observed occasionally in infants receiving tetracycline. Glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis and definite allergic reactions occur rarely. Severe anaphylactoid reactions have been reported as due to triacetyloleandomycin. Photosensitivity and photoallergic reactions (due to the tetracycline) occur rarely. Medication should be discontinued when evidence of significant adverse side effects or reaction is present. Patients should be carefully observed for evidence of overgrowth of nonsusceptible organisms including fungi, which occurs occasionally, and which indicates this drug should be discontinued and appropriate therapy instituted. Steps should be taken to avoid masking syphilis when treating gonorrhea.



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**RENEW  
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**LIABILITY  
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## **Tandearil®** oxyphenbutazone

*Therapeutic Effects:* Tandearil is a nonhormonal compound which may rapidly resolve inflammation and help restore normal joint function. Its action does not affect pituitary-adrenal function or impair immune responses. Its value in osteoarthritis is especially noteworthy because this disorder responds inconsistently to steroids and is often resistant to salicylates. Further, indomethacin is limited only to osteoarthritis of the hip, whereas oxyphenbutazone is effective in all forms of the disease.

*Contraindications:* Edema; danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. The drug should not be given when the patient is senile or when other potent drugs are given concurrently.

*Warning:* If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Pyrazole compounds may potentiate the pharmacologic action of sulfonyleurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy. Use with great caution in the first trimester of pregnancy.

*Precautions:* Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should be closely supervised and should be warned to report immediately fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools or other evidence of intestinal hemorrhage. Make regular blood counts. Discontinue the drug and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensives.

*Adverse Reactions:* The most common are nausea, edema and drug rash. The drug has been associated with peptic ulcer and may reactivate a latent peptic ulcer. Infrequently, agranulocytosis, or a generalized allergic reaction may occur and require withdrawal of medication. Stomatitis, salivary gland enlargement, vomiting, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported but cannot definitely be attributed to the drug. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

*Dosage in Osteoarthritis:* The initial daily dosage in adults is 300-600 mg. in divided daily doses. When improvement occurs, dosage should be decreased to the minimum effective level; this should not exceed 400 mg. daily, and is often achieved with only 100-200 mg. daily.

For complete details, please refer to full prescribing information. 6562-VI(B)R

*Availability:* Tablets of 100 mg.



Geigy Pharmaceuticals  
Division of Geigy Chemical Corporation  
Ardsley, New York



Geigy

Tandearil®  
oxyphenbutazone

helps osteoarthritic  
joints move again



3 out of 4 osteoarthritics com-  
pletely or markedly improved

Please see ad-  
joining page for  
brief prescribing  
summary

Sperling, I.L.: 3 Years' Experience  
with Oxyphenbutazone in the  
Treatment of Rheumatic Disorders,  
Applied Therapeutics 6:117, 1964.

76.9% of 407 patients

Watts, T.W., Jr.: Treatment of Rheu-  
matoid Disorders with Oxyphenbu-  
tazone, Clin. Med. 73:65, 1966.

84.6% of 39 patients

TA-4919 PC

# New low-cost tetracycline/antifungal therapy

for broad-spectrum activity  
plus specific antifungal prophylaxis  
at significant patient savings

Whenever tetracycline is indicated in these candidates for Candida:

1. diabetic patients



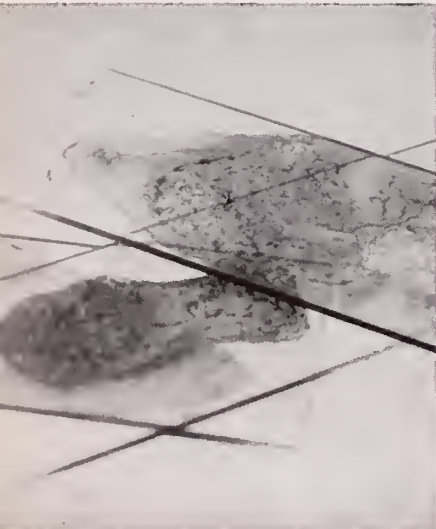
2. nonpregnant women with a history of recent or recurrent monilial vaginitis



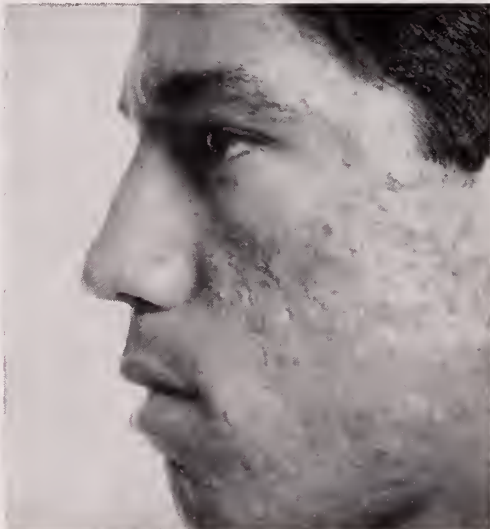
3. elderly or debilitated patients



4. patients with a past history of moniliasis



5. patients on long-term tetracycline or corticosteroid therapy



**PRESCRIBING INFORMATION.** For complete information consult Official Package Circular. **Indications:** Infections of respiratory, gastrointestinal and genitourinary tracts and skin and soft tissues due to tetracycline-sensitive organisms, in patients with increased susceptibility to monilial infections. **Contraindications:** The drug is contraindicated in patients hypersensitive to its components. **Warnings:** Photodynamic reactions have been produced by tetracyclines. Natural and artificial sunlight should be avoided during therapy. Stop treatment if skin discomfort occurs. With renal impairment, systemic accumulation and hepatotoxicity may occur. In this situation lower doses should be used. Tooth staining and enamel hypoplasia may be induced during tooth development (last trimester of pregnancy, neonatal period and childhood.) **Precautions:** Bacterial superinfections may occur. Infants may develop increased intracranial pressure with bulging fontanels. In gonorrheal therapy, serologic test for syphilis should be conducted initially and monthly for 3 months. **Adverse Reactions:** Glossitis, stomatitis, nausea, diarrhea, flatulence, proctitis, vaginitis, dermatitis and allergic reactions may occur. **Usual Adult Dosage:** capsule q.i.d. Continue for 10 days in Beta-hemolytic streptococcal infections. Administer one hour before or two hours after meals. **Supplied:** Capsules, bottles of 16 at \$100. Each capsule contains tetracycline phosphate complex equivalent to 250 mg. tetracycline HCl activity and 250,000 units of nystatin. For Oral Suspension, 125 mg. tetracycline and 125,000 u. nystatin/5 ml., 60 ml. bottle.

**BRISTOL** BRISTOL LABORATORIES  
Division of Bristol-Myers Company  
Syracuse, New York

## Tetrex-F®

Each capsule contains tetracycline phosphate complex equivalent to tetracycline hydrochloride 250 mg. and nystatin 250,000 units.

Tetrex-F is priced lower  
than most  
tetracycline-antifungal products.

# "Take a laxative" is a harsh sentence

Although there are more than 60 ethical laxatives available for the constipated patient, many, unfortunately, do not really produce an effect much like a normal bowel movement. Instead they whip the bowel, torment it and leave it irritated, inflamed and exhausted.

On the other hand, Dulcolax

provides a nearly normal movement. Through its unique contact action, it induces the kind of natural contraction waves of the colon necessary for gentle, complete, comfortable bowel movements.

For your next constipated patient, try Dulcolax—the laxative with the gentle touch.

Dulcolax, brand of bisacodyl tablets (5 mg.)

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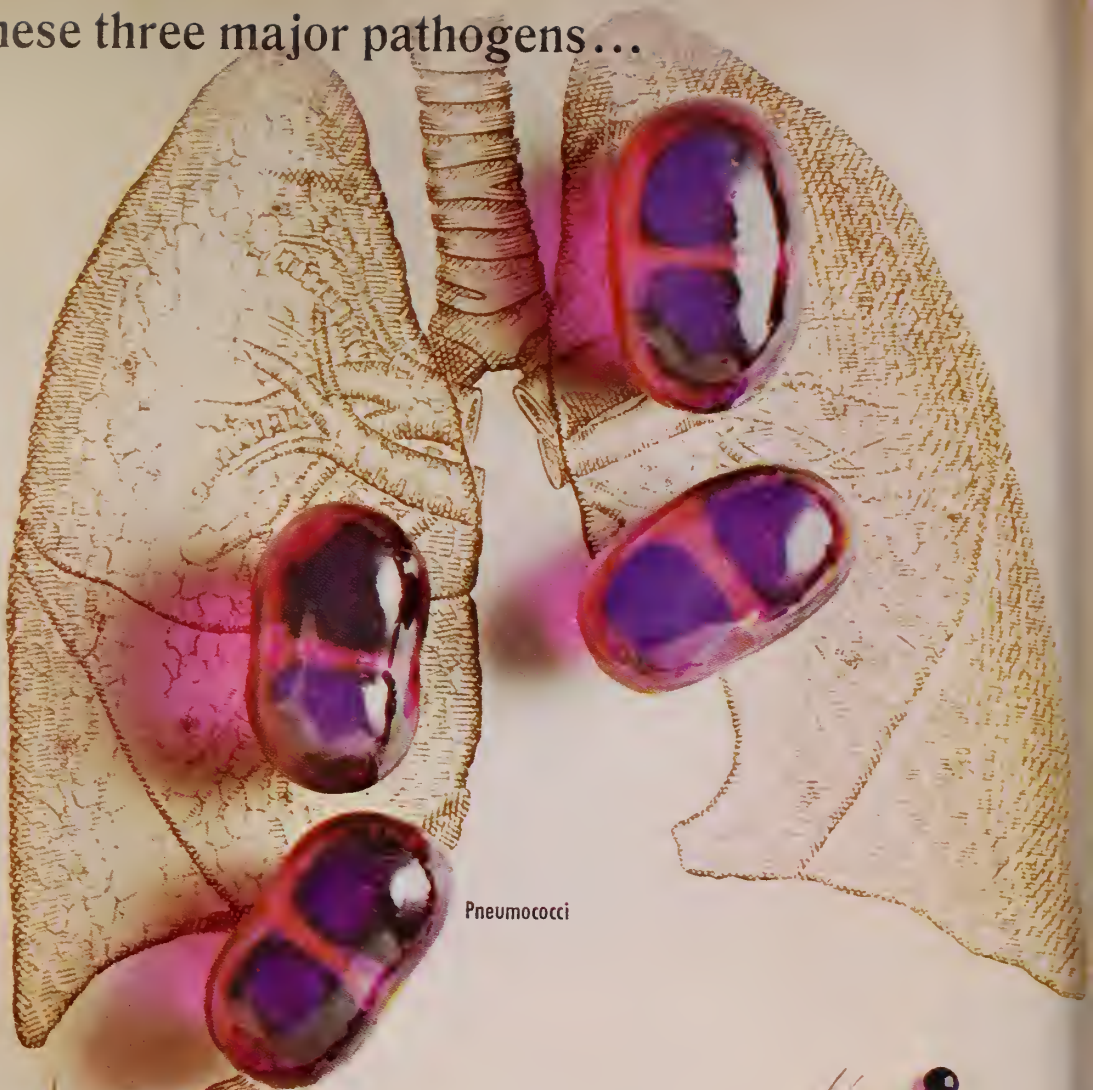
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## **Dulcolax<sup>®</sup>** a gentle persuasion

Geigy



Against these three major pathogens...



Pneumococci

Penicillin-Sensitive  
Staphylococci



Beta-Hemolytic  
Streptococci



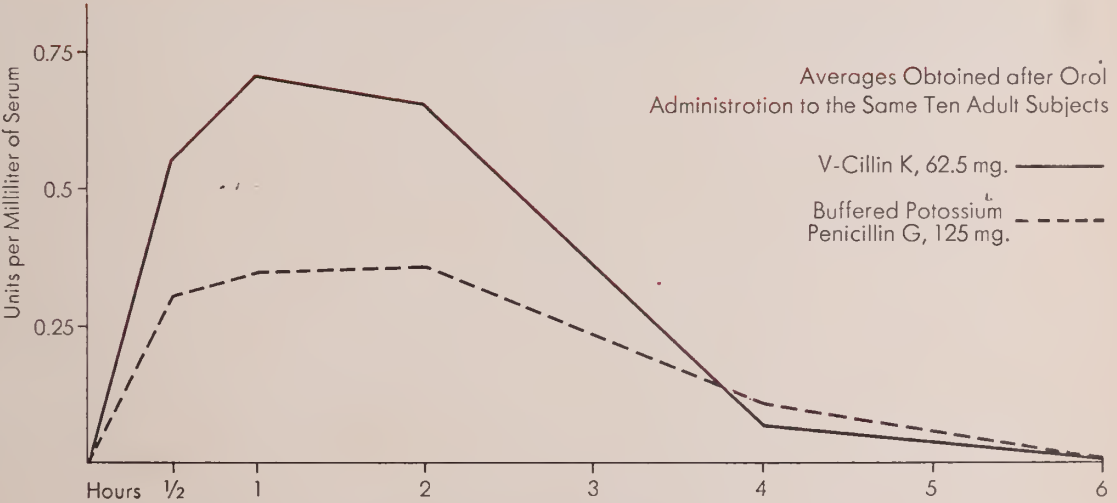
# V-Cillin K<sup>®</sup> provides unexcelled oral antibacterial activity

because it combines a high degree of in-vitro activity...

Antibiotic	Staph.Aureus (Penicillin-Sensitive)		Streptococcus, Group A		Diplococcus Pneumoniae	
	Median	Range	Median	Range	Median	Range
Penicillin V	0.02	0.02-0.04	0.02	0.003-0.4	0.01	0.005-0.2
Penicillin G	0.02	0.005-1.6	0.005	0.002-0.2	0.02	0.01-0.1
Methicillin	1.6	0.4-6.3	0.2	0.1-0.4	0.2	0.1-1.6
Oxacillin	0.4	0.1-3.1	0.04	0.02-0.4	0.1	0.04-0.8
Cloxacillin	0.2	0.2-0.8	0.1	0.1-0.8	—	—
Nafcillin	0.4	0.2-0.8	0.04	0.02-0.1	0.02	0.02-0.2
Ampicillin	0.2	0.1-0.8	0.02	0.01-0.04	0.02	0.01-0.04

Adapted from Klein, J. O., and Finland, M.: New England J. Med., 269 1019, 1963.

with high blood levels, even in the presence of food



Adapted from Griffith, R. S., and Black, H. R.: Current Ther. Res., 6 253, 1964.

V-Cillin K<sup>®</sup>  700157  
Potassium Phenoxymethyl Penicillin

(See next page for prescribing information.)



## New 500 mg. tablets...a more convenient way to give high doses



**Description:** V-Cillin K is the potassium salt of V-Cillin® (phenoxymethyl penicillin, Lilly). This chemically improved form combines acid stability with immediate solubility and rapid absorption. Higher serum levels are obtained more rapidly with this penicillin than with equal oral doses of penicillin G. The higher serum levels and acid stability of V-Cillin K make it a more dependable penicillin for oral use.

V-Cillin K, Pediatric, is an oral solution of clinically proved V-Cillin K in teaspoon dosage form. When mixed as directed, each 5 cc. (approximately one teaspoonful) will contain 125 mg. (200,000 units) phenoxymethyl penicillin as the potassium salt.

**Indications:** V-Cillin K has been shown to be effective in the treatment of streptococcus, pneumococcus, and gonococcus infections as well as infections caused by sensitive strains of staphylococci. It may be used for the prophylaxis of streptococcus infections in patients with a history of rheumatic fever and for the prevention of bacterial endocarditis after tonsillectomy and tooth extraction in those patients with a history of rheumatic fever or congenital heart disease.

**Contraindication:** V-Cillin K should not be administered to a patient with a history of penicillin hypersensitivity.

**Precautions:** V-Cillin K should be used cautiously, if at all, in a patient with a strongly positive history of allergy. Reactions occur more frequently in individuals with bronchial asthma or other allergies or in

those who have previously demonstrated sensitivity to penicillin. If severe hypersensitivity reactions occur, the drug should be discontinued.

**Adverse Reactions:** Although serious allergic reactions are much less common with administration of oral penicillin than with intramuscular forms, skin rash, symptoms resembling those of serum sickness, and other manifestations of penicillin allergy may occur. When penicillin is administered, measures for treating anaphylaxis should be readily available. Those include epinephrine, oxygen, and pressor drugs; relief of immediate allergic manifestations as well as antihistamines and corticosteroids for delayed effects.

The use of antimicrobial agents may be associated with the overgrowth of antibiotic-resistant organisms; in such a case, antibiotic administration should be stopped and appropriate measures taken.

**Administration and Dosage:** For Tablets V-Cillin K and for V-Cillin K, Pediatric, the usual dosage ranges from 125 mg. (200,000 units) three times a day to 500 mg. (800,000 units) every four hours. For infants, the daily dosage may be 50 mg. per Kg. of body weight divided into three doses.

Beta-hemolytic streptococcus infections without associated bacteremia may be treated with 200,000 to 400,000 units three times a day. Therapy should be continued for a minimum of ten days to prevent development of rheumatic fever and/or other serious complications. Dosage for routine streptococcus prophylaxis in patients with a history of rheumatic fever or congenital heart disease may be 200,000 units orally or twice daily. When such patients undergo tonsillectomy, tooth extraction, or other minor surgery, the prophylactic dose should be 500,000 units every six hours given two days prior to surgery and for two days postoperatively. If oral medication is not feasible on the day of surgery, parenteral therapy should be considered. Mild to moderate severe pneumococcus pneumonia has been treated effectively with 250 mg. every six hours.

In staphylococcus infections, 400,000 units or more should be given every six to eight hours in conjunction with indicated surgical procedures.

For gonorrhea in males, 500 mg. (800,000 units) every six hours; three doses may be employed; in females, 500 mg. every four hours; six doses are recommended. Patients with a suspected lesion of syphilis should have a dark-field examination before receiving penicillin and monthly serologic tests for a minimum of three months.

**How Supplied:** Tablets V-Cillin K, U.S.P., 125 mg. (200,000 units) in bottles of 50 and 100, 250 mg. (400,000 units), and 500 mg. (800,000 units) in bottles of 24 and 100.

V-Cillin K, Pediatric, for Oral Solution, 125 mg. (200,000 units) per 5 cc. of solution, in 40, 80, and 150-cc.-size packages.

Additional information available to physicians upon request. Eli Lilly and Company, Indianapolis, Indiana 46206.

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	Tranquilizer	Potentiator	Antiemetic
Agitation	●		
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Nausea & vomiting	●		●
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Obstetrics	●	●	●
Pain	●	●	●
Pediatrics	●	●	●
Porphyria	●	●	
Psychiatric disorders	●		
Hiccups—refractory	●		
Senile agitation	●		
Surgery	●	●	●
Tetanus	●	●	

'Thorazine' is useful as a specific adjuvant in the above named conditions.

The following is a brief precautionary statement. Before prescribing, the physician should be familiar with the complete prescribing information in SK&F literature or *PDR*. **Contraindications:** Comatose states or the presence of large amounts of C.N.S. depressants. **Precautions:** Potentiation of C.N.S. depressants may occur (reduce dosage of C.N.S. depressants when used concomitantly). Antiemetic effect may mask other conditions. Possibility of drowsiness should be borne in mind for patients who drive cars, etc. In pregnancy, use only when necessary to the welfare of the patient. **Side Effects:** Occasionally transitory drowsiness; dry mouth; nasal congestion; constipation; amenorrhea; mild fever; hypotensive effects, sometimes severe with

I.M. administration; epinephrine effects may be reversed; dermatological reactions; parkinsonism-like symptoms on high dosage (in rare instances, may persist); weight gain; miosis; lactation and moderate breast engorgement (in females on high dosages); and less frequently cholestatic jaundice. Side effects occurring rarely include: mydriasis; agranulocytosis; skin pigmentation, lenticular and corneal deposits (after prolonged substantial dosages).

For a comprehensive presentation of 'Thorazine' prescribing information and side effects reported with phenothiazine derivatives, please refer to SK&F literature or *PDR*.

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to recover from the flu  
if he just doesn't care?



**Does he really care?  
Is he alert, encouraged,  
positive and optimistic  
about getting out of bed  
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**Or is he giving in to  
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Each 45 cc. (3 tablespoonfuls) contains: alcohol, 15%; pipradrol hydrochloride, 2 mg.; thiamine hydrochloride (vitamin B<sub>1</sub>) (10 MDR\*), 10 mg.; riboflavin (vitamin B<sub>2</sub>) (4 MDR), 5 mg.; pyridoxine hydrochloride (vitamin B<sub>6</sub>), 1 mg.; niacinamide (5 MDR), 50 mg.; choline,† 100 mg.; inositol,† 100 mg.; calcium glycerophosphate, 100 mg. (supplies 2% MDR for calcium and for phosphorus) and 1 mg. each of the following: cobalt (as chloride), manganese (as sulfate), magnesium (as acetate), zinc (as acetate), and molybdenum (as ammonium molybdate).

\*Multiple of adult Minimum Daily Requirement supplied.

†The need for these substances in human nutrition has not been established.

**Indications:** 1. Functional fatigue such as that often associated with: a depressing life experience or stressful time of life; advancing years; convalescence; limited activity or confinement. 2. Poor appetite and vitamin-mineral deficiency as they occur in: patients having faulty eating habits; geriatric patients who are losing interest in food; patients convalescing from debilitating illness or surgery.

**Contraindications:** As with other drugs with CNS stimulating action, Alertonic is contraindicated in hyperactive, agitated or severely anxious patients and in chorea or obsessive compulsive states.

**Side effects:** Reports of overstimulation have been rare. Patients who are known to be unduly sensitive to the effects of stimulant drugs should be observed carefully in the initial stages of treatment.

**Dosage:** Adults, 1 tablespoonful; children (over 15 years old), 1 to 2 teaspoonfuls; children (4 to 15 years old), 1 teaspoonful. To be taken three times daily 30 minutes before meals.

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In clinical trials<sup>1,2</sup>, this orange-flavored tablet was given to 55 patients, aged four months to 18 years.

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Therapy was given from three to 12 days, with an average of six days.

Of the 55 patients, 30 were reported cured within 72 hours, while 22 showed partial recovery within the same time, and subsequent clinical cure.

### A clinical cure rate of 94.5%

1. Case Reports on File, Dept. Clin. Development, Abbott Laboratories.
2. Polley, R.F.L., Use of Erythromycin-Sulfas in Office Practice, Western Med., 7:177, July, 1966.

## ERYTHROCIN®-SULFAS Granules (Erythromycin ethyl succinate-trisulfapyrimidines granules for oral suspension)

87 patients were treated<sup>1,2</sup>—all children, ages four months to 15 years.

The diagnoses were multiple in some cases and were chiefly bacterial infections of the respiratory tract.

Dosage was maintained from three to 10 days; average treatment was five days. All of the ill children accepted the orange-flavored suspension favorably.

53 were clinically cured within 72 hours, while 32 showed partial relief within the same time, and subsequent clinical cure.

701358

### A clinical cure rate of 97.7%



Brief  
Summary  
on next  
page

# ERYTHROCIN®-SULFAS

## Brief Summary

**Contraindications:** Known sensitivity to erythromycin or sulfonamides. Because of the possibility of kernicterus with sulfonamides, do not use in pregnancy at term, premature or newborn infants.

**Warnings:** As with other forms of sulfonamide therapy, carefully evaluate patients with liver or kidney damage, urinary obstruction, or blood dyscrasia. Deaths have been reported from hypersensitivity reactions and blood dyscrasias following use of sulfonamides. Perform blood counts and liver and kidney function tests if used repeatedly at close intervals or for long periods.

**Precautions, Side Effects:** Occasionally mild abdominal discomfort, nausea or vomiting may occur with erythromycin, generally controlled by reduction of dosage. Mild allergic reactions (such as urticaria and other skin rashes) may occur. Serious allergic reactions have been extremely infrequent. Use sulfonamides with caution in patients with a history of allergy. Assure adequate fluid intake to prevent crystalluria and institute alkali therapy if indicated. If overgrowth of nonsusceptible organisms occurs, withdraw the drug and institute appropriate treatment. If a patient should show signs of hypersensitivity, appropriate countermeasures (e.g. epinephrine, steroids, etc.) should be administered and the drug withdrawn.

**Adverse Reactions:** Sulfonamide therapy may be associated with headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

Side effects due to erythromycin are infrequent, but occasional abdominal discomfort, nausea, or vomiting, urticaria and other skin rashes may occur.

**Supplied:** The Granules for Oral Suspension come in bottles of 60 ml. and 150 ml. The Chewable tablets are in bottles of 50. Each 5-ml. teaspoonful of reconstituted Granules or each Chewable tablet provides erythromycin ethyl succinate equivalent to 125 mg. of erythromycin activity and 167 mg. of each of sulfadiazine, sulfamerazine and sulfamethazine.

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...soothes colicky pain with paregoric  
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intestinal mucosa

In children, Parepectolin may be used to control diarrhea promptly and prevent dehydration, until etiology has been determined. In some cases, Parepectolin may be all the therapy necessary.



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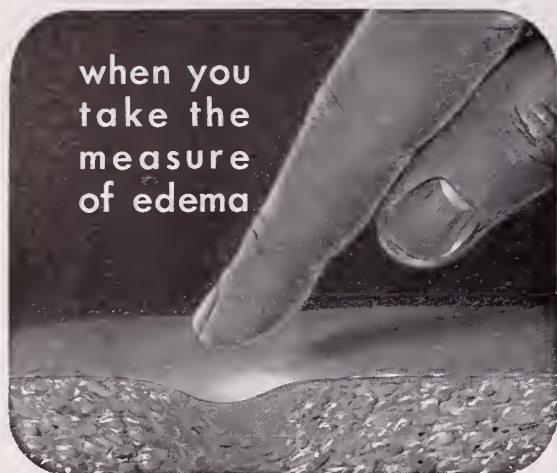
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**DIURETIC ACTION:** Clinically, the oral administration of AQUATAG (benzthiazide) results in diuretic activity within two hours with maximal natriuretic, chloruretic, and diuretic effects occurring during the fourth, fifth and sixth hours. Maintenance of response continues for approximately 12 to 18 hours. Acidosis is an unlikely complication since therapeutic doses of AQUATAG (benzthiazide) do not appreciably increase bicarbonate excretion. Edematous patients receiving 50 mg. of AQUATAG (benzthiazide) daily for five days developed a maximal increase in the rate of sodium excretion on the first day and maintained this high rate until depletion of excessive body stores of sodium.

In congestive heart-failure patients, AQUATAG (benzthiazide) produced the same weight loss, during a 48-hour treatment period as did a maximally effective dose of hydrochlorothiazide.

**DOSAGE:** Diuresis, initially 50 to 200 mg.; maintenance 25 to 150 mg., daily. Hypertension 50 to 100 mg. initially, adjusted to 50 mg. t.i.d. or downward to minimal effective dosage level.

**WARNINGS:** Use with caution in the presence of renal disease as azotemia may be precipitated or increased. In patients with advanced hepatic disease, electrolyte imbalance may result in hepatic coma. Dosage of coadministered antihypertensive agents should be reduced by at least 50%. In cases of suspected electrolyte imbalance, serum electrolyte determinations should be performed and imbalance, if any, corrected. Stenosis or ulcer of small intestine have been reported with coated potassium formulas, and surgery has been required and deaths have occurred. Based on surveys of both United States and foreign physicians, incidence of these lesions is low and a causal relationship in man has not been definitely established. Until further experience has been obtained, the use of the drug in pregnant patients should be weighed against possible hazards to the fetus.

**CONTRAINDICATIONS:** AQUATAG (benzthiazide) is contraindicated in progressive renal disease or dysfunction including increasing oliguria and azotemia. Continued administration of this drug is contraindicated in patients who show no response to its diuretic or antihypertensive properties. Severe hepatic disease is a relative contraindication. (See "Warnings" above.)

**PRECAUTIONS AND SIDE EFFECTS:** Electrolyte imbalance with hypokalemia (digitalis toxicity may be precipitated), hypochloremic alkalosis and hyponatremia may occur. Patients with cirrhosis should be observed for impending hepatic coma and hypokalemia. Other reactions may include blood dyscrasias, hyperuricemia and gout, nausea, jaundice, anorexia, vomiting, diarrhea, dizziness, paresthesia, photosensitivity and headache. Hepatic fetor, tremor, confusion and drowsiness are signs of impending pre coma and coma in patients with cirrhosis. Insulin requirements may be altered in diabetes. AQUATAG (benzthiazide) should be used with caution post-operatively as hypokalemia is not uncommon. Potassium supplementation may be advisable pre- and post-operatively. There have been occasional reports of thrombocytopenia, leukopenia, agranulocytosis, aplastic anemia and precipitation of acute pancreatitis or jaundice.

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**Precautions:** Usual for aminophylline-ephedrine-phenobarbital. Iodides may cause nausea, long use may cause goiter. Discontinue if symptoms of iodism develop.

**Iodide contraindications:** tuberculosis, pregnancy.

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One tablet, with full glass of water, 3 or 4 times daily.

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1. Bradley, J. E., *et al.*: *J. Pediat.* 38:41 (Jan.) 1951.
2. Bradley, J. E.: *Mod. Med.* 20:71 (Oct. 15) 1952.
3. Crunden, A. B., Jr., and Davis, W. A.: *Am. J. Obst. & Gynec.* 65:311 (Feb.) 1953.



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(meprobamate and  
ethoheptazine citrate with  
aspirin)



**Precautions:** Keep out of reach of children. Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use of meprobamate may result in dependence or habituation in susceptible persons—as ex-addicts, alcoholics, severe psychoneurotics. Withdraw gradually after prolonged high dosage to avoid possibly severe withdrawal reactions including epileptiform seizures. Warn patients of possible reduced alcohol tolerance. If drowsiness, ataxia or visual disturbances occur, reduce dose. If symptoms persist, caution patients against operating machinery or driving. Give cautiously to patients with suicidal tendencies. Treat attempted suicide with immediate gastric lavage and appropriate supportive therapy.

**Side Effects:** Ethoheptazine and aspirin may occasionally cause nausea, vomiting, epigastric distress, and rarely dizziness and CNS depression. Overdosage may result in salicylate intoxication. Meprobamate rarely causes allergic or idiosyncratic reactions. These reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Mild reactions are characterized by urticarial or erythematous maculopapular rash. Acute non-thrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever have been reported. Meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioedema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. A few cases of leukopenia, usually transient, have been reported following prolonged dosage. Rarely, cases of aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis, and hemolytic anemia have been reported; almost always, in the presence of known toxic agents.

**Contraindications:** History of sensitivity or severe intolerance to aspirin or meprobamate.

**Composition:** 150 mg. meprobamate, 75 mg. ethoheptazine citrate and 250 mg. aspirin per tablet. Wyeth Laboratories Philadelphia, Pa.

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on his  
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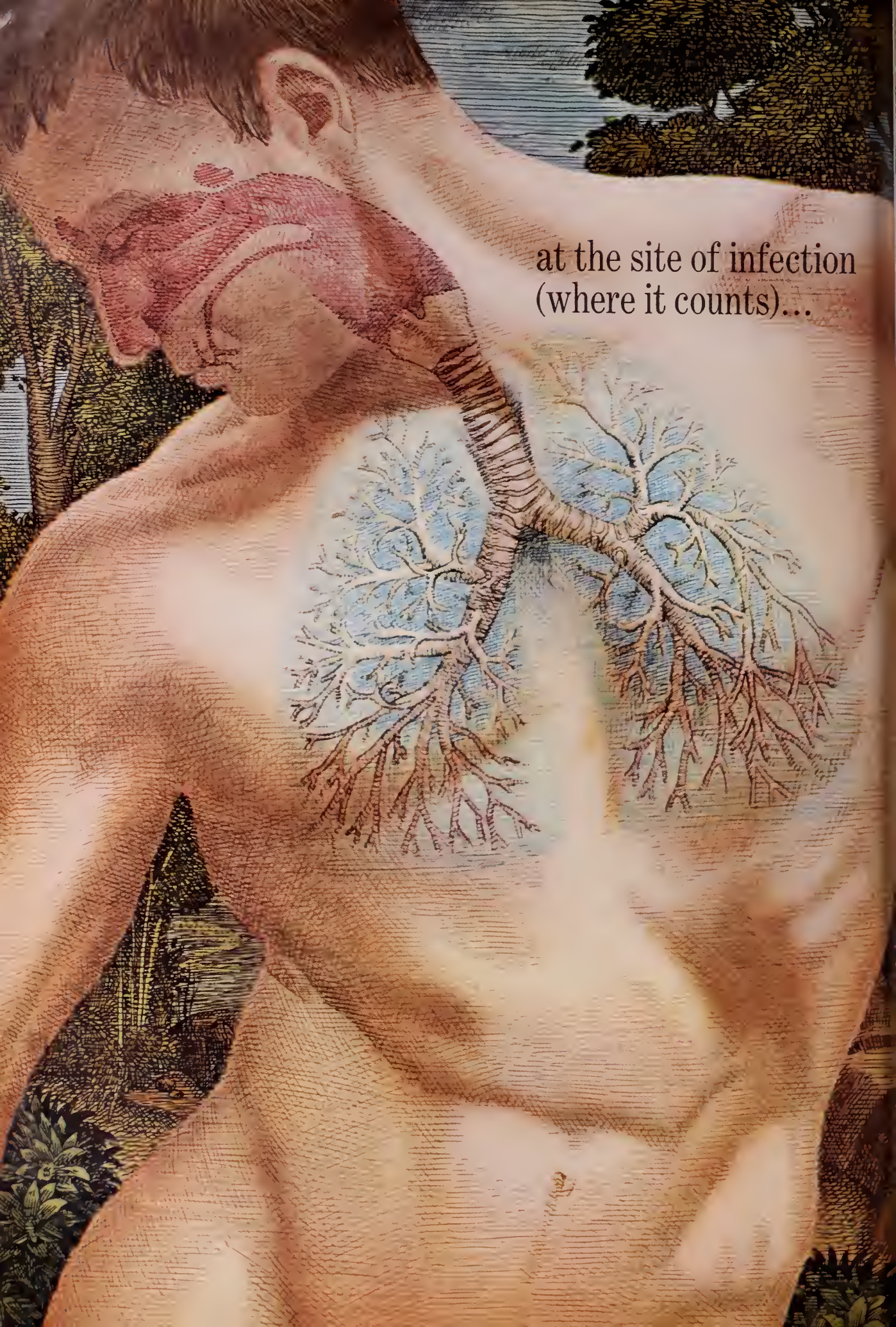
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Erythromycin estolate has proved to be very effective in pneumococcus pneumonia and in acute bronchitis with pneumococci on culture. Bronchopneumonia and otitis media in children have responded well to its use.

The antibiotic has been used very successfully in staphylococcus infections. Good therapeutic results have been obtained in soft-tissue infections, abscesses, cellulitis, carbuncles, wound infections, and furunculosis.

In serious staphylococcus infections, erythromycin preparations should be used only in combination therapy with other antimicrobial agents. As is the case with any treatment regimen used in these severe conditions, surgical procedures should be performed when indicated, and large dosages of the antimicrobial agents should be employed. In this fashion, Ilosone has been effective in staphylococcus pneumonia, osteomyelitis, septicemia, empyema, and meningitis.

Multiple 500-mg. doses of the drug have been useful in gonorrhea and syphilis. Since penicillin is the drug of choice for the treatment of syphilis and gonorrhea, erythromycin estolate should be employed for these infections only in patients with a history of penicillin allergy. Also, other infections due to susceptible bacteria in patients known to be hypersensitive to penicillin or other antibiotics may be considered for treatment with Ilosone. **Contraindications:** Ilosone is contraindicated in patients with a known history of sensitivity to this drug and in those with pre-existing liver disease or dysfunction.

**Side-Effects:** Data obtained from seven years' use of propionyl erythromycin ester and erythromycin estolate (Ilosone) indicate that hepatic dysfunction with or without clinical jaundice may occur during or following courses of therapy with the drug.

Changes in liver function tests in such cases have been indicative of intrahepatic cholestasis. The symptoms appear to be the result of a form of sensitization. The initial symptoms have appeared in some cases after a few days of treatment but generally have followed one or two weeks of continuous therapy or several courses of the drug. Symptoms reappear promptly if the drug is readministered to sensitive patients, usually within forty-eight hours. Eosinophilia was noted in peripheral blood counts. The findings readily subsided without apparent residual effects when treatment was discontinued. Recovery was delayed in one reported instance. The physician indicated in this case that either drug-induced jaundice or viral hepatitis may have been responsible for the findings.

In one clinical study involving ninety-three patients treated with the antibiotic, three cases of jaundice were observed and an additional eleven cases developed some changes in liver function tests. Three of the patients had abnormal liver function tests a second time on readministration of the drug.

Even though it is assumed that not all cases of jaundice have been reported, it seems clear that the number is small compared with the amount of drug that has been used. Reported cases have included persons in whom there had been administered other drugs known to be associated at times with hepatic side-effects and cases in which the presence of viral hepatitis or other disease may have been responsible for the findings. In some of the cases, associated gastro-intestinal symptoms simulated the colic of biliary tract disease. In other instances, clinical symptoms and results of liver function tests resembled findings in extrahepatic obstructive jaundice. It appears that the occurrence of jaundice after administration of Ilosone is infrequent, but further investigations are being made to estimate its incidence more accurately.

In those cases mentioned above in which jaundice appeared to

be definitely related to use of the drug, laboratory findings were characterized by increased direct-reacting bilirubin, elevated alkaline phosphatase levels, negative or weakly positive cephalin flocculation and thymol turbidity tests, elevated serum glutamic oxalacetic transaminase levels, peripheral eosinophilia, and normal cholecystograms.

Individual idiosyncrasy seems evident since jaundice has not been reported in other patients taking prolonged courses of the medication. Patients with chronic infection have been given 1 to 2 Gm. of the drug daily for periods of two to six months, and patients with rheumatic fever have taken prophylactic doses of 0.5 Gm. daily for two years without difficulty. In one group of 144 patients who received the drug daily for two years, no jaundice was noted. It was of interest that members of six of these patients' families, who were not taking the drug, had episodes of jaundice during the study period.

Transaminase and serum alkaline phosphatase levels were determined in a group of fifty-four adults and children who took 250 mg. of Ilosone daily for an average of sixteen months and in a group of fifty-four patients with rheumatic fever prophylaxis. The results were compared with those of a similar group of forty-four patients who received penicillin. There were no cases of jaundice in either group. Elevations of SGPT and serum alkaline phosphatase levels during the course of treatment was observed in one patient treated with Ilosone and in two patients treated with penicillin. Seven other patients in the group receiving Ilosone and four others in the penicillin group showed elevations in one of the tests at some time during administration of the drugs.

Very satisfactory therapeutic results, without toxicity, were reported in 102 pediatric patients who received short-term (ten-day) courses of Ilosone in the treatment of streptococcus infections. Results of liver function tests in these patients were comparable to those in a similar control group who had received penicillin.

Gastro-intestinal disturbances not associated with hepatic effects are observed in a small proportion of individuals as a result of a local stimulating effect of the medication on the alimentary tract; however, the normal intestinal gram-negative bacterial flora is not appreciably altered by erythromycin drugs.

Although allergic manifestations are uncommon with the use of erythromycin, there have been occasional reports of urticaria, skin eruptions, and, on rare occasions, anaphylaxis.

**Administration and Dosage:** Ilosone is administered orally.

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For infants and for children under twenty-five pounds of body weight, the usual dosage is 5 mg. per pound every six hours; for children twenty-five to fifty pounds, 125 mg. every six hours. (Tablets Ilosone Chewable should be chewed or crushed and swallowed with water.)

For adults and for children over fifty pounds, the usual dosage of Ilosone is 250 mg. every six hours.

For severe infections, these dosages may be doubled.

When larger doses are indicated, parenteral erythromycin therapy should be considered.

In the treatment of syphilis, the recommended total dosage is 20 to 30 Gm. given in divided doses for a period of ten to fifteen days. Close follow-up of the patient is necessary since erythromycin drugs have not had adequate evaluation in all stages of syphilis. Examinations of spinal fluid are recommended as part of the follow-up therapy.

For gonorrhea, 500 mg. four times a day for four days are recommended. In the treatment of gonorrhea, patients with suspected lesion of syphilis should have a dark-field examination before receiving antibiotics, and monthly serologic tests should be made for a period of three months.

**How Supplied:** Pulvules Ilosone, Capsules, N.F., 125 and 250 mg. (equivalent to base), in bottles of 24 and 100.

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Ilosone Drops, 5 mg. (equivalent to base) per drop, in 10-cc. size packages, with dropper calibrated at 25 and 50 mg.

Ilosone, 125, for Oral Suspension, N.F., 125 mg. (equivalent to base) per 5-cc. teaspoonful, in 60 and 150-cc. size packages.

**References:** 1. Griffith, R. S., and Black, H. R.: *Am. J. M. Sc.*, 247:69, 1964. 2. Griffith, R. S., and Black, H. R.: *Antibiotics & Chemother.*, 12:398, 1962. 3. Hirsch, H. A., Pryles, C. V., and Finland, M.: *Am. J. M. Sc.*, 239:198, 1960.

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## The JOURNAL

of the Oklahoma State Medical Association

### CONTRIBUTIONS

Articles accepted for publication, including manuscripts of annual meeting papers, are the sole property of the *Journal* and must not have been published elsewhere. Authority for approval of all contributions rests with the Editorial Board, and the Board reserves the right to edit any material submitted. Manuscripts should be typewritten, double-spaced and submitted in original and one copy. Receipt of manuscripts will be acknowledged and unused manuscripts returned. Used manuscripts will be returned on request. The *Journal of the Oklahoma State Medical Association* is not responsible for the statements or opinions of any contributor.

### STYLE

Footnotes, bibliographies, and legends for illustrations should be submitted on separate sheets, double-spaced. Bibliographies should follow in order of: name of author, title or article, name of periodical with volume number, page and date of publication. These references should be alphabetized and numbered in sequence.

### ILLUSTRATIONS

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### NEWS

Members of the Oklahoma State Medical Association, the constituent societies of the association, and all readers in general are invited to supply news items of general interest to the profession. Such copy should be received one month prior to the expected date of publication.

### ADVERTISING

All advertising copy must be approved by the Editorial Board before acceptance for publication. Copy and/or engravings must reach the *Journal* office by the first of the month preceding the month of publication. General and miscellaneous advertising rates will be sent on request.

### EDITING SERVICE

The Editorial Board reserves the prerogative to submit contributions to a Medical Editing Service when warranted. If such is felt necessary, the Editor will contact the author for approval, informing him that there will be a modest charge for this service.

### REPRINTS

Authors will receive reprint order forms from the Transcript Press, P.O. Drawer 1058, Norman, Oklahoma 73069, prior to final publication of their articles. Other requests for reprints must be made to the Transcript Press within 30 days after publication.

**Sex Education Expert  
To Be Featured Speaker  
At Auxiliary Convention**

Mary Calderone, M.D. noted proponent of sex education, will be one of the speakers at the 44th Annual Convention of the Woman's Auxiliary to the AMA, June 18th-22nd, in Atlantic City.

Doctor Calderone's talk, "Sex Education: Goals and Means," is scheduled for Tuesday morning, June 20th, according to Mrs. Asher Yaguda, Newark, New Jersey, auxiliary president.

Also speaking on Tuesday will be Charles L. Hudson, M.D., AMA President. Doctor Hudson's talk will be made at the luncheon honoring auxiliary past-presidents and AMA officers and trustees. The auxiliary's contribution to AMA-ERF will be presented at that time, as well as awards to county and state AMA-ERF winners.

Mrs. Yaguda and Mrs. Karl F. Ritter, Lima, Ohio, president-elect will be honored at a reception Sunday, June 18th. Mrs. Ritter will be installed as president Wednesday, June 21st.

Other convention highlights will be the Monday Guest Day Luncheon (speaker to be announced) and the "Little Workshop," a question and answer session on auxiliary programs, with the national committee chairmen leading the discussions. State auxiliary presidents will report on outstanding local programs at the Monday and Tuesday sessions.

The auxiliary will also sponsor a teen-age program for children of physicians and guests attending the AMA convention, held concurrently with the auxiliary meeting. A Sunday afternoon mixer and pool party are among the events planned.

\* \* \*

It is with deep regret that we announce the recent death of Mrs. T. D. Rowland of Shawnee. Mrs. Rowland was the widow of the late Doctor Rowland and had lived in Shawnee for many years. She was a life member and past-president of the Oklahoma State Auxiliary and a charter and honorary member of the Pottawatomie County Woman's Auxiliary. Our deepest sympathy to the family.

\* \* \*

Doctor Albert J. Glass, State Mental Health Director, was the guest speaker at the mid-winter Board meeting on January 23rd. Doctor Glass brought us up to-date information on mental health problems and plans for Oklahoma.

Mrs. Tom Sparks, State Historian needs more information from each county auxiliary in Oklahoma—news items, pictures,—old and new happenings—are urgently needed. County chairman should make a note of this request and send material at once to Mrs. Tom Sparks, 627 Stanley Drive, Ardmore, Oklahoma.

Mrs. Arthur Springall, State Health Career Chairman announced plans for the second '66-'67 Health Career Rally to be held at the University of Oklahoma Medical Center, 800 N.E. 13th on March 18th, 1967. County chairman received detailed information concerning this very important meeting earlier in the year. Health Career Clubs who did not attend the December 10th meeting should make plans to be there on March 18th.

\* \* \*

**TWO IMPORTANT DATES** — Doctors Day—March 30th, 1967 and Oklahoma State Medical Association Meeting—May 11th, 12th, 13th, 14th, 1967, Tulsa, Oklahoma.



**Quotable:** "To accept a fine medical education in Britain with the deliberate intent of selling it elsewhere is in my view a cynical and selfish act. We need in our health service every single doctor we train. Britain simply cannot afford to train doctors for the purpose of swelling the membership of the American Medical Association." — Kenneth Robinson, British Minister of Health.

**Professional listings in a commercial directory are unethical.** Many Oklahoma physicians are being contacted periodically by commercial classified directories for purchase of a "listing." The approach is often in the form of a simulated bill, which it is quite possible to pay inadvertently. AMA's Principles of Medical Ethics have been interpreted to prohibit commercial listings as a form of soliciting patients or patronage.

**OSMA dues are delinquent after March 31st.** State association dues are \$75 for 1967, and AMA dues are \$70. Collection for both organizations is the responsibility of county medical societies, but the OSMA has prepared and distributed pre-addressed statement envelopes to facilitate the task.

**AMPAC backed winning political candidates in 1966.** The American Medical Political Action Committee, national counterpart of Oklahoma's OMPAC (see President's Page), extended financial support in 146 races for Congressional offices in 1966, and backed the winner 80 per cent of the time.

**Selective Service will take thirty Oklahoma physicians July 1st.** The state's share of a national draft call for 2,118 physicians will put 30 young Oklahoma doctors in uniform by July 1st, 1967. For the first time in history, the draft has been extended to doctors of osteopathy, but none of the 111 national quota has been assigned to Oklahoma.

**The Oklahoma Hospital Association has requested state legislation to vest authority for**

**approving hospital pharmacies and drug rooms in the State Board of Health.** The move is a reaction to an Attorney General's opinion two years ago to the effect that the State Board of Pharmacy had control because the Public Health Code did not specifically include hospital pharmacies and drug rooms under the general hospital licensure authority of the State Board of Health. Subsequently, the State Board of Pharmacy developed and issued regulations which were felt to be impractical and unreasonable by most state hospitals.

**Chiropractors are active at the State Legislature.** Oklahoma legislators are developing "subluxations" as a result of chiropractic legislative activities. These irregular practitioners have introduced legislation to force the inclusion of chiropractic benefits under state financed health programs and to gain membership on the State Board of Health (despite their alleged belief in drugless therapy). In addition, they have temporarily thwarted efforts to curb chiropractic advertising by enlisting the support of newspaper publishers who valued the chiropractic advertising income.

**Personals.** Keiffer D. Davis, M.D., Bartlesville, has been reappointed to the AMA Council on Occupational Medicine. Richard A. Conley, M.D., Watonga, left for a 60-day stint in Viet Nam on March 3rd.

## MEETINGS

**April 12th-14th** — Postgraduate Seminar, "Respiratory Disorders in Infants and Childhood," University of Oklahoma School of Medicine, Oklahoma City.

**May 11th-14th** — OSMA Annual Meeting, Tulsa Assembly Center, Tulsa.

**June 18th-22nd** — AMA Annual Convention, Atlantic City.



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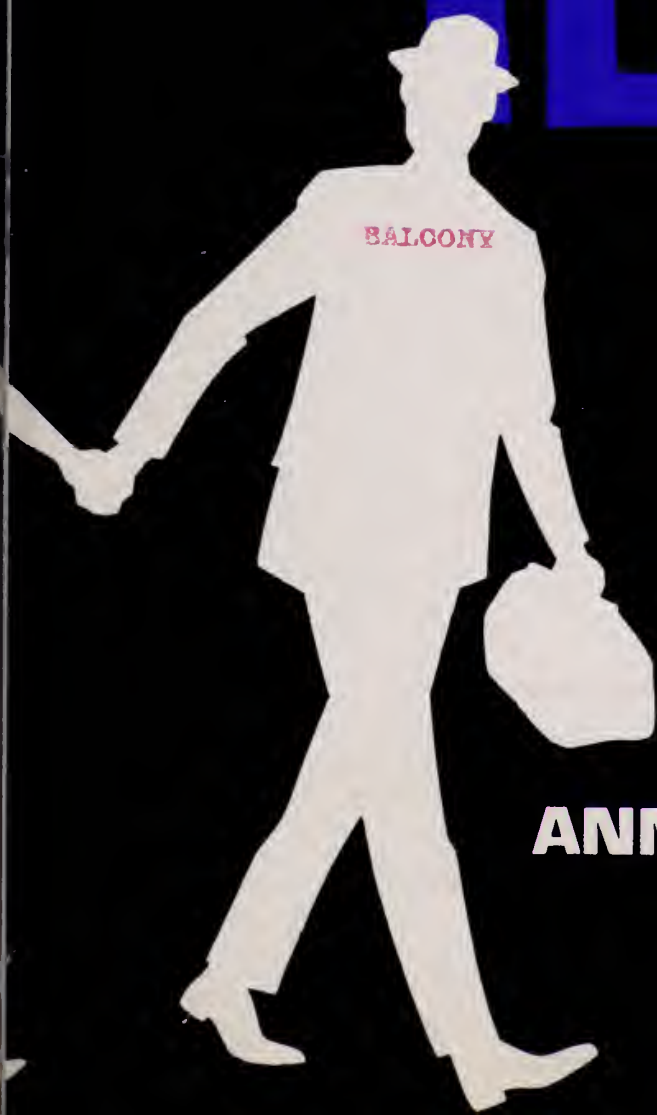
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April 1967



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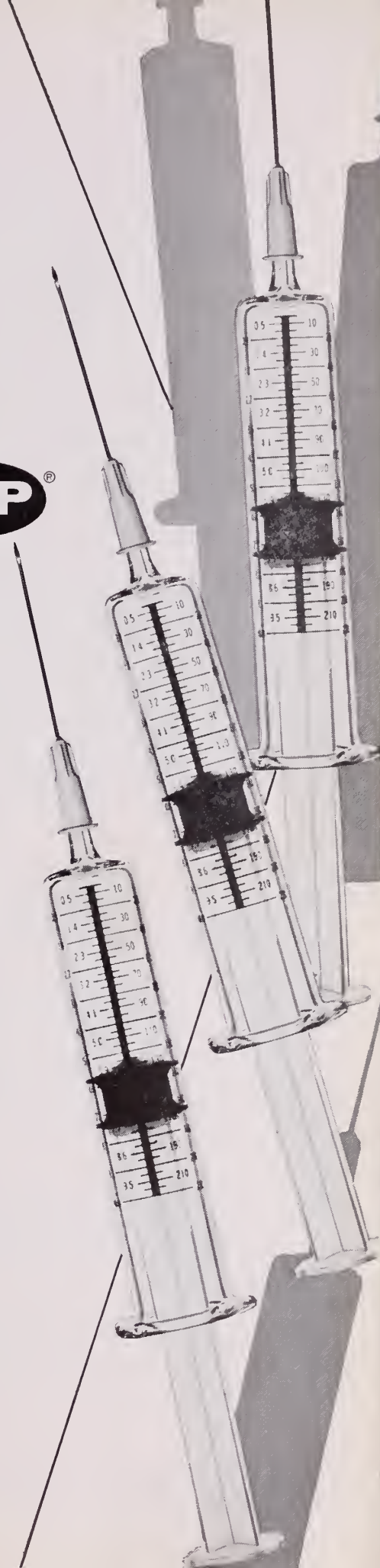
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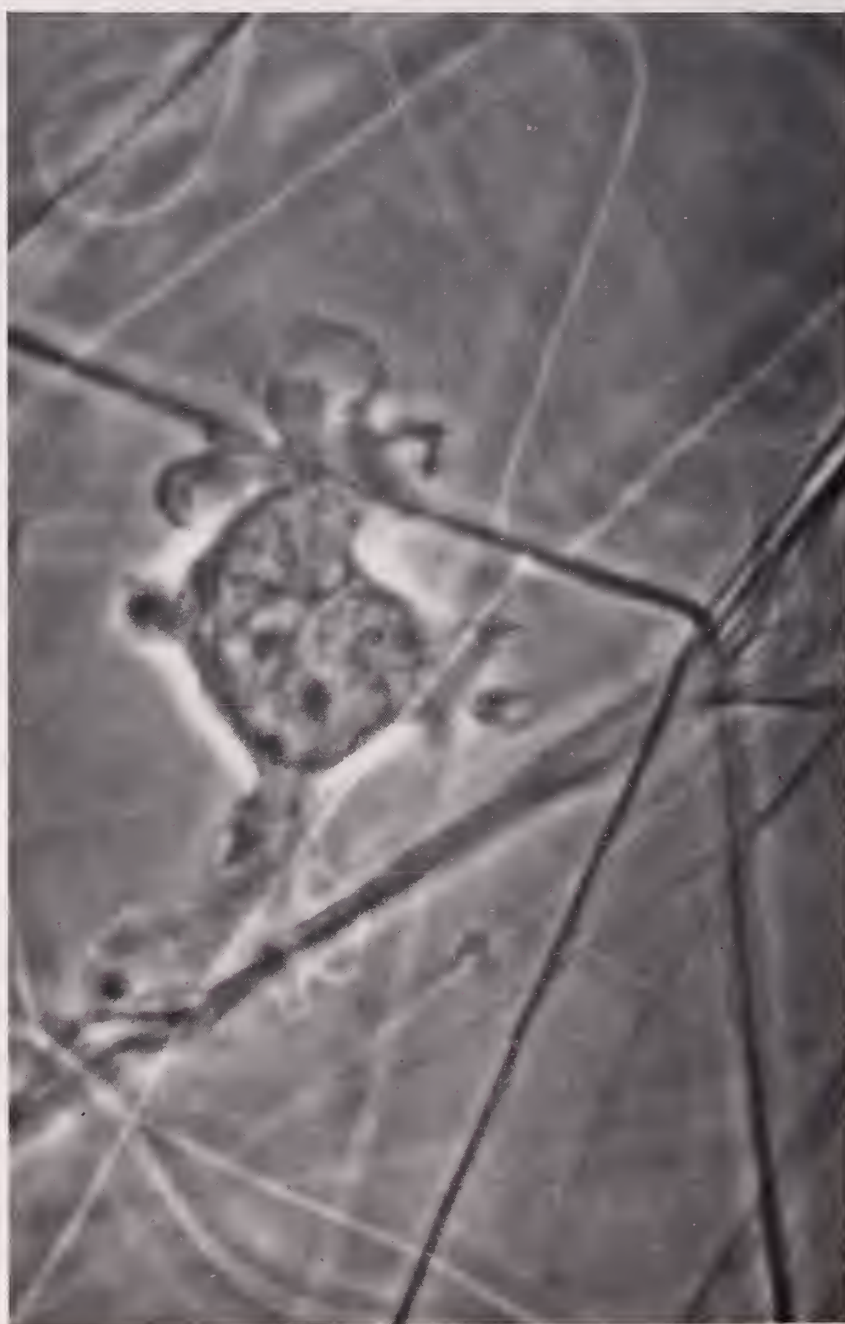


# INFLAMMATION: A cellular fight for life

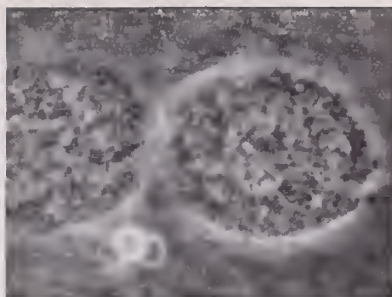
*A SYNTEX REPORT based on recently developed hypotheses about topical corticosteroids, including the cellular theories of inflammation by Thomas F. Dougherty, Ph.D., University of Utah.*

You are looking at a fibroblast fighting for life. This cell—one of the most common found in connective tissue—has literally been poisoned by cytotoxins released from other cells that have ruptured. Soon, if the abnormal activity of this fibroblast does not cease, it, too, will rupture and die—one more casualty in the inflammatory wave of destruction precipitated by injury.

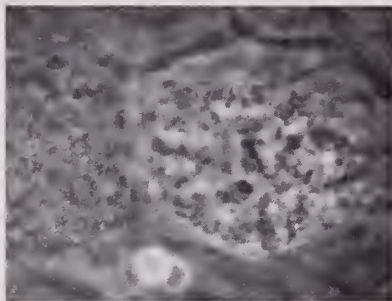
Until a short time ago no one had ever witnessed such a scene at the cellular level. Now, through advanced cinemicrographic techniques, it is possible to view and photograph the inflammatory process as produced experimentally in living animal tissue. This method permits new insight into the mechanism of inflammation and the role of corticosteroids in therapeutic management. Equally important, these techniques shed new light on factors that may make one corticosteroid more effective than another—factors that can be correlated with other chemical, biologic, and clinical parameters.







*Phase-contrast microscopy showing mast cell before injury.*



*Mast cell (after injury) has broken up and released cytotoxins.*

## Visual evidence of how corticosteroids influence the inflammatory reaction

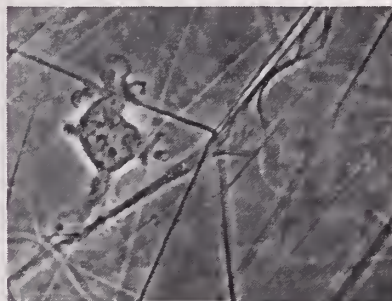
Working with phase-contrast cinematography on living animal tissue, Doctors Thomas F Dougherty and David Berliner of the University of Utah College of Medicine have actually filmed cellular events that occur during the inflammatory reaction. This remarkable study\* and additional work by these investigators, as well as by others, have established a new theoretical biologic basis for the antiinflammatory effect of the corticosteroids. (It must be noted that other theories, such as the lysosome or so-called "suicide bag" theory, have been postulated, although it is quite likely that there are more similarities than differences among the various theoretical models.)

## The inflammatory wave of destruction

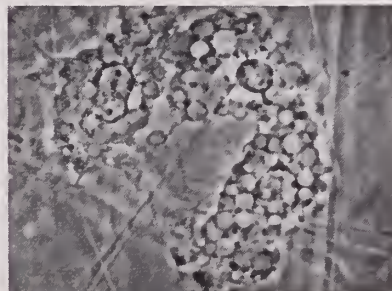
In this investigation an injurious injection of gelatin is used to set off an inflammatory reaction in living mouse tissue. What follows is a wave of destructive cellular activity that comprises the inflammatory response to injury. Mast cells (which contain heparin, serotonin and histamine) take up water, swell and rupture, releasing their contents, which are toxic outside the mast cell wall. These toxins, in turn, cause disintegration of other cells (such as fibroblasts) and the release of additional toxic material. Capillaries, too, take up water and leak unformed blood elements, causing edema. And polymorphonuclears, lymphocytes and perithelial cells invade the inflamed site. As a result of all these changes, the cellular environment reaches a state of turmoil.

## How corticosteroids change the picture

Corticosteroids appear to virtually stop the abnormal cellular activity that constitutes the inflammatory reaction. This permits the body's natural resources to clear up the inflamed area and repair the damaged tissue. This interpretation is supported by the fact that when the injurious gelatin solution is injected simultaneously with a corticosteroid — Synalar (fluocinolone acetonide) — the inflammatory pattern simply does not develop.



*Fibroblast in high state of activity, much distorted.*



*Mast cells showing effects of corticosteroid action: cells are normal in size, shape and activity.*

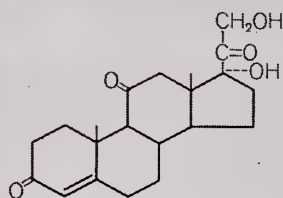


In summarizing his study Doctor Dougherty states: "...we also feel this work may explain why one corticosteroid helps a patient more rapidly and effectively than another. If it does, it is because one corticosteroid is the fastest, most effective inhibitor of the series of inflammatory events at the tissue level."

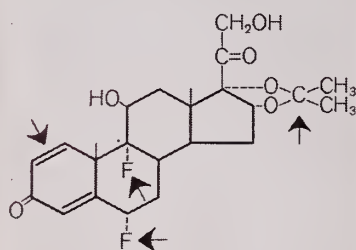
\*A New View of Corticosteroid Action in Inflammatory Dermatoses, a film based on this study, is now available from your Syntex representative.

# How advances in chemical design have achieved greater steroid potency

The chemical modification of corticosteroid molecules from the advent of hydrocortisone to the development of Synalar (fluocinolone acetonide) is a prime example of how biochemists can "design" to increase therapeutic activity and minimize undesirable side actions. Below, for example, we see the important changes that were made in reference to the hydrocortisone molecule to produce fluocinolone acetonide, one of the most active of all topical corticosteroids. As a result, a 0.01% preparation of Synalar (fluocinolone acetonide) has been reported to do the work of a 1% hydrocortisone product containing 100 times more corticosteroid. And it can often do it more effectively.



**Hydrocortisone**

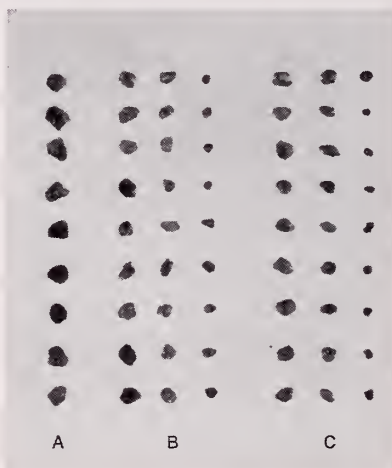


**Fluocinolone Acetonide (Synalar)**

- a double bond between carbons 1 and 2
- fluorine substitutions at both the 6- $\alpha$ , and the 9- $\alpha$  positions
- the addition of the acetonide at the 16- $\alpha$ , 17- $\alpha$  positions, thus providing one of the most potent topical corticosteroids available.

## How bioassay tests are used to "predict" therapeutic potential

Biologic assays are another tool used by researchers to help establish the relative activity of corticosteroids. To date no single method of assaying corticosteroid activity has emerged as the ideal "yardstick" for predicting therapeutic potential. Taken together, however, these methods have proved useful. When such tests are run on various corticosteroids, a definite order of corticosteroid activity becomes evident. Compounds with the highest order of activity may be expected to merit clinical trial to establish their high therapeutic potential. When assayed by these methods, fluocinolone acetonide (Synalar) emerges as one of the most active topical corticosteroids, milligram for milligram, available for clinical application today.



**THE THYMUS INVOLUTION ASSAY<sup>1-4</sup>** is run on adrenalectomized rats. The sizes of the glands are measured, and the degree of involution caused by the steroid is determined as an indication of its potency. In the above photo, the comparative involution of thymus glands achieved with hydrocortisone and Synalar (fluocinolone acetonide) is shown. Untreated controls (A) show normal size. Group B— injected with 1, 2 and 4 mg. of hydrocortisone—show progressively smaller thymuses as does Group C— injected with fluocinolone acetonide—but with only 1/500th the dose of hydrocortisone.



**THE ANTIGRANULOMA ASSAY<sup>1-4</sup>** also utilizes adrenalectomized rats. Granulomas are induced by subcutaneous implantation of cotton pellets on either side of the thorax. The degree of granuloma inhibition achieved by a steroid reflects its potency. The above photo shows the inhibition of granuloma formation achieved with hydrocortisone and Synalar (fluocinolone acetonide). Untreated controls (A) show large, red granulomas adhering to the pellets. Group B, receiving hydrocortisone and Group C, receiving fluocinolone acetonide, show little, if any, granuloma formation. Fluocinolone acetonide produced the same effect as hydrocortisone with only 1/500th the dose. This assay, as well as the thymus involution assay, measures systemic rather than topical corticosteroid activity. Nevertheless, results by these methods correlate well with other assays and with the milligram potencies of topical steroids in current clinical use.



# Worldwide clinical experience confirms the predictable therapeutic potential of Synalar

It is particularly gratifying that the promise of the advanced chemical design and high order of bioassay activity of Synalar (fluocinolone acetonide) has been confirmed by widespread therapeutic application. Indeed, the impressive clinical response rate of Synalar has been documented in no fewer than 232 papers from 22 countries.

## PRESCRIBING INFORMATION

*For initiation of therapy:* Cream 0.025%, 5 and 15 Gm. tubes, 425 Gm. jars; *for emollient effect:* Ointment 0.025%, 15 Gm. tubes; *for maintenance therapy:* Cream 0.01%, 15 and 45 Gm. tubes, 120 Gm. jars; *for intertriginous or hairy sites:* Solution 0.01%, 20 cc. and 60 cc. plastic squeeze bottles; *for infected inflammatory dermatoses:* Neo-Synalar® Cream (0.025% fluocinolone acetonide, neomycin sulfate, equivalent to 0.35% neomycin base), 5 and 15 Gm. tubes.

**CONTRAINDICATIONS:** Tuberculous, fungal, and most viral lesions of the skin, (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of the components. **PRECAUTIONS:** Synalar preparations are virtually nonsensitizing and nonirritating. However, the solution may produce burning or stinging when applied to denuded or fissured areas. In some patients with dry lesions, the solution may increase dryness, scaling or itching. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for pro-

## Representative Clinical Results with Synalar\*

Efficacy Documented in over 4,000 Patients

Condition	Number of Publications	Number of Patients	Significant Improvement†
Contact Dermatitis	27	750	713
Eczematous Dermatitis	21	472	409
Seborrheic Dermatitis	18	442	426
Atopic Dermatitis	24	460	426
Psoriasis	36	1,699	1,510
Neurodermatitis	18	351	324
<b>Total</b>	<b>144</b>	<b>4,174</b>	<b>3,808</b>

\*Complete bibliography on request.

†Expressed by the authors as excellent, very good, good, complete remission of inflammation, etc.

longed periods of time. Prolonged use of any antibiotic may result in overgrowth of nonsusceptible organisms; if this occurs, appropriate therapy should be instituted. When severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. **SIDE EFFECTS:** Side effects are not ordinarily encountered with topically applied corticosteroids. As with all drugs, however, a few patients may react unfavorably to Synalar under certain conditions. The neomycin in Neo-Synalar Cream rarely produces allergic reactions.

**REFERENCES:** 1. Lerner, L. J., Bianchi, A., Turkheimer, A. R., Singer, F. M., and Borman, A.: Anti-inflammatory steroids: potency, duration and modification of activities. *Ann NY Acad Sci* 116:1071 (Aug. 27) 1964. 2. Idem: Comparison of anti-granuloma, thymolytic and glucocorticoid activities of anti-inflammatory steroids. *Proc Soc Exp Biol Med* 116:385 (June) 1964. 3. Ringler, A.: Activities of adrenocorticosteroids in experimental animals and man, in Dorfman, R. I.: *Methods of hormone research*, New York, Academic Press, 1964. vol. III. pp. 234-280. 4. Gubersky, V. R.: To be published.

fluocinolone acetonide — an original steroid from  
**SYNTEX**  
LABORATORIES INC., PALO ALTO, CALIF.

For inflammatory  
dermatoses...  
by any measure  
a topical corticosteroid  
of choice

# Synalar® (fluocinolone acetonide)

Milligram for milligram  
one of the most active topical  
corticosteroids available

Rapid and predictable  
in antiinflammatory and  
antipruritic activity

Results often comparable to  
those of systemic corticosteroids  
with fewer hazards



# In peptic ulcer... antacid therapy with a new benefit



CONTAINS A BALANCED  
COMBINATION  
OF THE MOST WIDELY  
USED ANTACIDS—  
FOR RAPID  
NEUTRALIZATION.  
PLUS SIMETHICONE—  
TO CONTROL  
THE FACTOR WHICH  
ANTACIDS ALONE  
CANNOT INFLUENCE.

## Mylanta<sup>®</sup>

- In Mylanta, aluminum and magnesium hydroxides are balanced to minimize the chance of constipation or laxation and still achieve rapid acid neutralization and pain relief.
- The positive action of simethicone helps relieve the painful gas symptoms which often accompany the peptic ulcer syndrome.
- The nonfatiguing flavor and smooth, nongritty consistency of tablets and liquid encourage continued patient cooperation during long-term therapy.

**Composition:** Each Mylanta chewable tablet or teaspoonful (5 ml.) of liquid contains: magnesium hydroxide, 200 mg.; aluminum hydroxide, dried gel, 200 mg.; simethicone, 20 mg. **Dosage:** one or two tablets, well chewed or allowed to dissolve in the mouth, or one or two teaspoonfuls of liquid to be taken between meals and at bedtime.

The Stuart Company, Pasadena, California  
Division of Atlas Chemical Industries, Inc.

**Stuart**

# A Building Block approach to treating hypertension



With these three therapeutic building blocks  
you can create a once-a-day regimen to fit almost any degree  
of hypertension. See the following pages for details . . .



# Consider starting your hypertensives on this basic thiazide



**Enduron eliminates sodium around the clock, yet is relatively sparing of potassium**





Enduron is a true 24-hour single-dose thiazide. Its sodium excretion is not squeezed into an abrupt peak during the first several hours. It is well-sustained in a plateau-like effect — with little reduction in intensity during the first 12 hours, and decline thereafter only gradual.

Potassium loss, in contrast, reaches an early minor peak. Then it subsides rapidly. Moreover, doses larger than 5 mg. have little added effect on potassium. Thus doubling the dose from 5 to 10 mg. approximately doubles sodium excretion—yet increases potassium loss little or none.

Use Enduron once a day as an ideal starting therapy in mild hypertension. Use it, too, as a basic therapeutic building block with which other agents can be joined, for managing your more resistant hypertensives.

Once a day, every day  
**ENDURON<sup>®</sup>**  
METHYCHLOTHIAZIDE



	Minimum	Usual	Intermediate	Maximum
DAILY DOSAGE RANGE	 2.5 mg. tablet	 5 mg. tablet	 7.5 mg.	 10 mg.

See Brief Summary on final page of advertisement.



# To build added response, shift to Enduronyl



**The deserpidine component compares favorably  
to reserpine, but with reduced side effects**

The rauwolfia component of Enduronyl is deserpidine (Harmony<sup>®</sup>), a purified crystalline alkaloid. It is comparable to reserpine in its antihypertensive and tranquilizing activity. Yet it produces less tendency toward typical rauwolfia side effects such as drowsiness, lethargy, stuffy nose, depression, etc.

Patient acceptance has been excellent.

Enduronyl comes in two strengths: regular and Forte. Both provide 5 mg. of Enduron. The variation is where most needed: in the deserpidine. These scored tablets give a surprisingly flexible choice of doses (see below).

Use Enduronyl for your patients within the broad range of mild to moderate hypertension. Dosage is *once* a day: this means Enduronyl will generally cost patients less than equivalent drugs taken two or three times daily.

*Once a day, every day*









## ENDURONYL<sup>®</sup>

METHYCHLOTHIAZIDE 5 MG. WITH DESERPIDINE 0.25 MG.

## ENDURONYL FORTE

METHYCHLOTHIAZIDE 5 MG. WITH DESERPIDINE 0.5 MG.



	Minimum	Usual	Intermediate	Maximum
DAILY DOSAGE RANGE	 2.5 mg. methyclothiazide 0.125 mg. deserpidine	 5 mg. methyclothiazide 0.25 mg. deserpidine	 7.5 mg. methyclothiazide 0.375 mg. deserpidine	 10 mg. methyclothiazide 0.5 mg. deserpidine
DAILY DOSAGE RANGE	 2.5 mg. methyclothiazide 0.25 mg. deserpidine	 5 mg. methyclothiazide 0.5 mg. deserpidine	 7.5 mg. methyclothiazide 0.75 mg. deserpidine	 10 mg. methyclothiazide 1 mg. deserpidine

See Brief Summary on final page of advertisement.

# Eutonyl affords a different kind of basic therapy for moderate to severe cases



**Effect tied to reduced peripheral vascular resistance; no central depressant action**

Eutonyl is a unique nonhydrazine agent. It is reported to act by reducing peripheral vascular resistance, with little or no effect upon cardiac output.<sup>1,2</sup>

In clinical trials, significant reductions in mean blood pressure were seen in 84% of patients studied—including some unusually difficult cases. Eutonyl lowers diastolic in proportion to systolic, and in half of the cases studied, reductions in the sitting and recumbent positions were nearly as great as in the standing position.

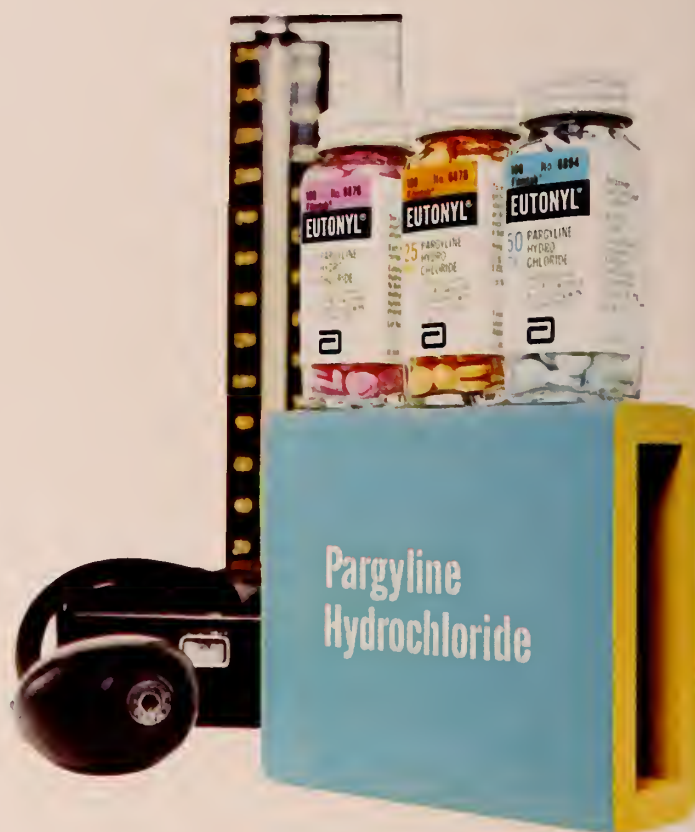
Most important: There is no central depressant action. In fact, many patients reported an *increased* sense of well being.

Here, then, is a highly effective *basic treatment* for moderate to severe cases—and one that will not hamper your patient with lethargy or drowsiness while on treatment.

Once a day, every day

## EUTONYL®

PARGYLINE HYDROCHLORIDE



### DAILY DOSAGE RANGE

Minimum



10 mg. tablet

Usual starting



25 mg. tablet

Intermediate



50 mg. tablet  
or as needed

Maximum



200 mg.

1. Brest, A. N., et al., Cardiac and Renal Hemodynamic Response to Pargyline, *Ann. N. Y. Acad. Sci.*, 107-1016, 1963.

2. Winsor, T., Pargyline Hydrochloride, Hypertension, Urinary Tryptamine, and Vascular Reflexes, *Geriatrics*, 19:598, Aug., 1964.

See Brief Summary on final page of advertisement.

# Eutron adds thiazide for enhanced therapy with milder side effects



**Only a 7/4 mm. span between standing and recumbent pressures—reduced chance of orthostatic hypotension**

The combining of Eutonyl and Enduron in Eutron permits a significantly greater antihypertensive effect than with either agent used alone. This in turn may allow therapeutic success with lesser dosage—and correspondingly milder side effects.

Indeed, fully 94.5% of all patients studied during clinical trials continued on therapy uninterrupted by side effects.

Most striking was the drug's action in lowering blood pressure to *nearly equal levels in all body positions*. Total average spread between standing and recumbent readings (after treatment) was only 7/4 mm. Hg.





Thus, in your moderate to severe cases, Eutron affords a usually smooth course of therapy, with reduced likelihood of orthostatic effects. And, because of the thiazide component, Eutron may be used in the presence of congestive heart failure.

Once a day, every day

## EUTRON™

PARGYLINE HYDROCHLORIDE 25 MG.  
WITH METHYLOTHIAZIDE 5 MG.



	Minimum	Usual starting	Intermediate	Maximum
DAILY DOSAGE RANGE				
	12.5 mg. pargyline hydrochloride and 2.5 mg. methyclothiazide	25 mg. pargyline hydrochloride and 5 mg. methyclothiazide	37.5 mg. pargyline hydrochloride and 7.5 mg. methyclothiazide	50 mg. pargyline hydrochloride and 10 mg. methyclothiazide

See Brief Summary on final page of advertisement.

TM—Trademark

704075



## ENDURON

METHYLCLOTHIAZIDE

## ENDURONYL

Each tablet contains Methyclothiazide 5 mg.  
with Deserpidine 0.25 mg. or 0.5 mg.

**Indications:** Enduron is used to control edema and mild hypertension. Also used with other drugs for hypertension. Enduronyl is used in mild to moderately severe hypertension.

**Contraindications:** Neither Enduron nor Enduronyl should be used in severe renal disease (except nephrosis) or shutdown; in severe hepatic disease or impending hepatic coma; in patients sensitive to thiazides. Enduronyl is contraindicated in severe mental depression, active peptic ulcer, and ulcerative colitis.

**Warnings:** Consider possible sensitivity reactions in patients with a history of allergy or asthma. Avoid use of enteric-coated potassium tablets, as these may induce serious or fatal small bowel lesions; if added potassium intake is desired, dietary supplementation is recommended. Coated potassium tablets should be reserved for cautious use when adequate dietary supplementation is impractical.

**Precautions and Adverse Reactions:** Use thiazides with caution in severe renal dysfunction. Caution is also necessary with impaired hepatic function or progressive liver disease. During intensive or prolonged thiazide therapy, watch chloride and potassium levels (especially the latter if patient is on digitalis). In surgical patients, thiazides may alter response to vasopressors and tubocurarine. Use thiazides with caution in pregnancy (bone marrow depression, thrombocytopenia, or altered carbohydrate metabolism are possible in certain newborn). Occasional thiazide side effects also include blood dyscrasias; elevations of BUN, serum uric acid, or blood sugar; electrolyte imbalance, g.i. disturbances, headache, dizziness, paresthesia, weakness, skin rash, photosensitivity, jaundice, pancreatitis, and gout.

Use Enduronyl with caution in patients with a history of peptic ulcer, as rauwolfias may increase gastric secretion. Discontinue at the first sign of mental depression. Rauwolfias may increase hypotensive effects of surgery or anesthesia, and are best discontinued two weeks prior. They also lower the convulsive threshold in epilepsy. Other possible rauwolfia side effects include drowsiness, nasal stuffiness, nausea, weight gain, and diarrhea. Less frequent complications of deserpidine therapy are aggravation of peptic ulcer, epistaxis, and skin eruption. Alcohol, barbiturates or narcotics may potentiate action of deserpidine.

## EUTONYL

PARGYLINE HYDROCHLORIDE

## EUTRON

Each tablet contains Pargyline Hydrochloride 25 mg.  
with Methyclothiazide 5 mg.

**Indications:** For treatment of patients with moderate to severe hypertension, especially those with severe diastolic hypertension. Not recommended for use in patients with mild or labile hypertension amenable to therapy with sedatives and/or thiazide diuretics alone.

**Contraindications:** Pheochromocytoma, advanced renal disease, paranoid schizophrenia and hyperthyroidism. Until further experience is gained, not recommended for use in

patients with malignant hypertension, children under 12, or pregnant patients.

Concomitant use of the following is contraindicated: other monoamine oxidase inhibitors; parenteral forms of reserpine or guanethidine; sympathomimetic drugs; foods high in tyramine such as cheese; imipramine and amitriptyline, or similar antidepressants; methyldopa. Interval of two weeks should separate therapy and use of these agents.

**Warnings:** Pargyline hydrochloride is a monoamine oxidase inhibitor. Warn patients against eating cheese, and using alcohol, proprietary drugs or other medication without the knowledge of the physician. When necessary to administer alcohol, narcotics (meperidine should be avoided), anti-histamines, anesthetics, barbiturates, chloral hydrate and other hypnotics, sedatives, tranquilizers, or caffeine, these can be used cautiously at a dosage of  $\frac{1}{4}$  to  $\frac{1}{5}$  the usual amount. Adjust dose of anesthetic agents to response of patient. Avoid parenteral administration where possible. Withdraw pargyline two weeks before elective surgery.

Warn patients about the possibility of postural hypotension. Those with angina or other evidence of coronary disease should not increase physical activity. Pargyline may lower blood sugar. Avoid use of enteric-coated potassium tablets, as these may induce serious or fatal small-bowel lesions; if added potassium intake is desired, dietary supplementation is recommended. Coated potassium tablets should be reserved for cautious use when adequate dietary supplementation is impractical.

**Precautions:** Measure blood pressure while patient is standing to determine antihypertensive effect. Use with caution in hyperactive or hyperexcitable persons. Such persons may show increased restlessness and agitation. Withdraw drug during acute febrile illness. Watch patients with impaired renal function for increasing drug effects or elevation of BUN and other evidence of progressive renal failure; withdraw drug if such alterations persist and progress. Use with caution in patients with liver dysfunction or progressive liver disease. As with all new drugs, complete blood counts, urinalyses, and liver function tests should be performed periodically. With prolonged therapy, examine patients for change in color perception, visual fields, and fundi.

During intensive or prolonged methyclothiazide therapy, watch chloride and potassium levels (especially latter if patient is on digitalis). Methyclothiazide also may reduce arterial response to pressor amines. Use thiazides with caution in pregnancy (bone marrow depression, thrombocytopenia, or altered carbohydrate metabolism are possible in certain newborns). Thiazide drugs may increase responsiveness to tubocurarine.

**Side Effects:** Pargyline may be associated with orthostatic hypotension. Mild constipation, slight edema, dry mouth, sweating, increased appetite, arthralgia, nausea and vomiting, headache, insomnia, difficulty in micturition, nightmares, impotence, delayed ejaculation, rash, and purpura have been encountered with pargyline. Hyperexcitability, increased neuromuscular activity (muscle twitching) and other extra-pyramidal symptoms have been reported. Drug fever is extremely rare. Congestive heart failure has been reported in a few patients with reduced cardiac reserve.

Thiazide side effects also include blood dyscrasias, elevation of BUN, serum uric acid, or blood sugar, electrolyte imbalance, g.i. disturbances, headache, dizziness, paresthesia, weakness, skin rash, photosensitivity, jaundice, pancreatitis, and gout. Nocturia has been observed with the combination.



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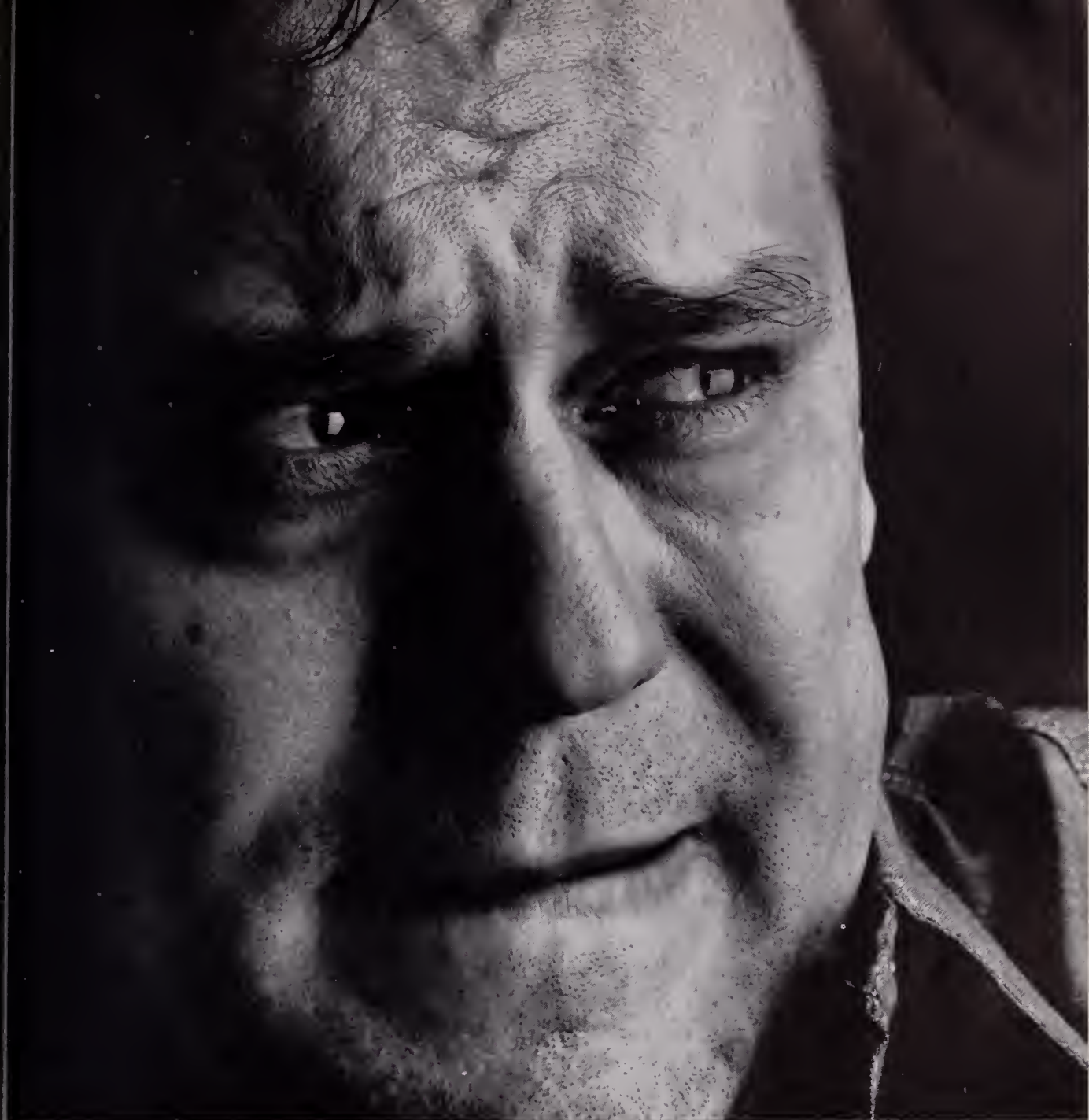


Photo professionally posed

## Mike expects a penicillin injection. He's about to be pleasantly surprised.

His physician is going to prescribe an oral penicillin —PEN•VEE® K (potassium phenoxymethyl penicillin). It's usually so rapidly and completely absorbed that therapeutic serum levels are produced in 15 to 30 minutes. Higher serum levels generally last longer than with oral penicillin G.

**Indications:** Infections due to pathogens susceptible to oral penicillin G. Prophylaxis of rheumatic fever in patients with previous history of the disease.

**Precautions:** Skin rash, symptoms resembling those of serum sickness, or other manifestations of penicillin-allergy may occur. Measures for treating anaphylaxis should be readily available: epinephrine, oxygen and pressor drugs for relief of immediate allergic reactions; anti-

histamines and corticosteroids for delayed effects. Penicillin may delay or prevent the appearance of primary syphilitic lesions. Patients with gonorrhea who are suspected of concurrent syphilitic infections should be tested serologically for at least 3 months. Where lesions of primary syphilis are suspected, dark-field examination should precede use of penicillin. As with other antibiotics overgrowth of nonsusceptible organisms may occur; if so, discontinue and take appropriate measures. Treat  $\beta$ -hemolytic streptococcal infections with full therapeutic dosage for at least 10 days to prevent development of rheumatic fever or glomerulonephritis.

**Contraindications:** Infections caused by nonsusceptible organisms; history of penicillin sensitivity.

**Composition:** Tablets—125 mg. (200,000 units) and 250 mg., (400,000 units); Liquid—125 mg. (200,000 units) and 250 mg. (400,000 units) per 5 cc.

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\*Multiple of adult Minimum Daily Requirement supplied.

†The need for these substances in human nutrition has not been established.

**Indications:** 1. Functional fatigue such as that often associated with: a depressing life experience or stressful time of life; advancing years; convalescence; limited activity or confinement. 2. Poor appetite and vitamin-mineral deficiency as they occur in: patients having faulty eating habits; geriatric patients who are losing interest in food; patients convalescing from debilitating illness or surgery.

**Dosage:** Adults, 1 tablespoonful; children (over 15 years old), 1 to 2 teaspoonfuls; children (4 to 15 years old), 1 teaspoonful. To be taken three times daily 30 minutes before meals.

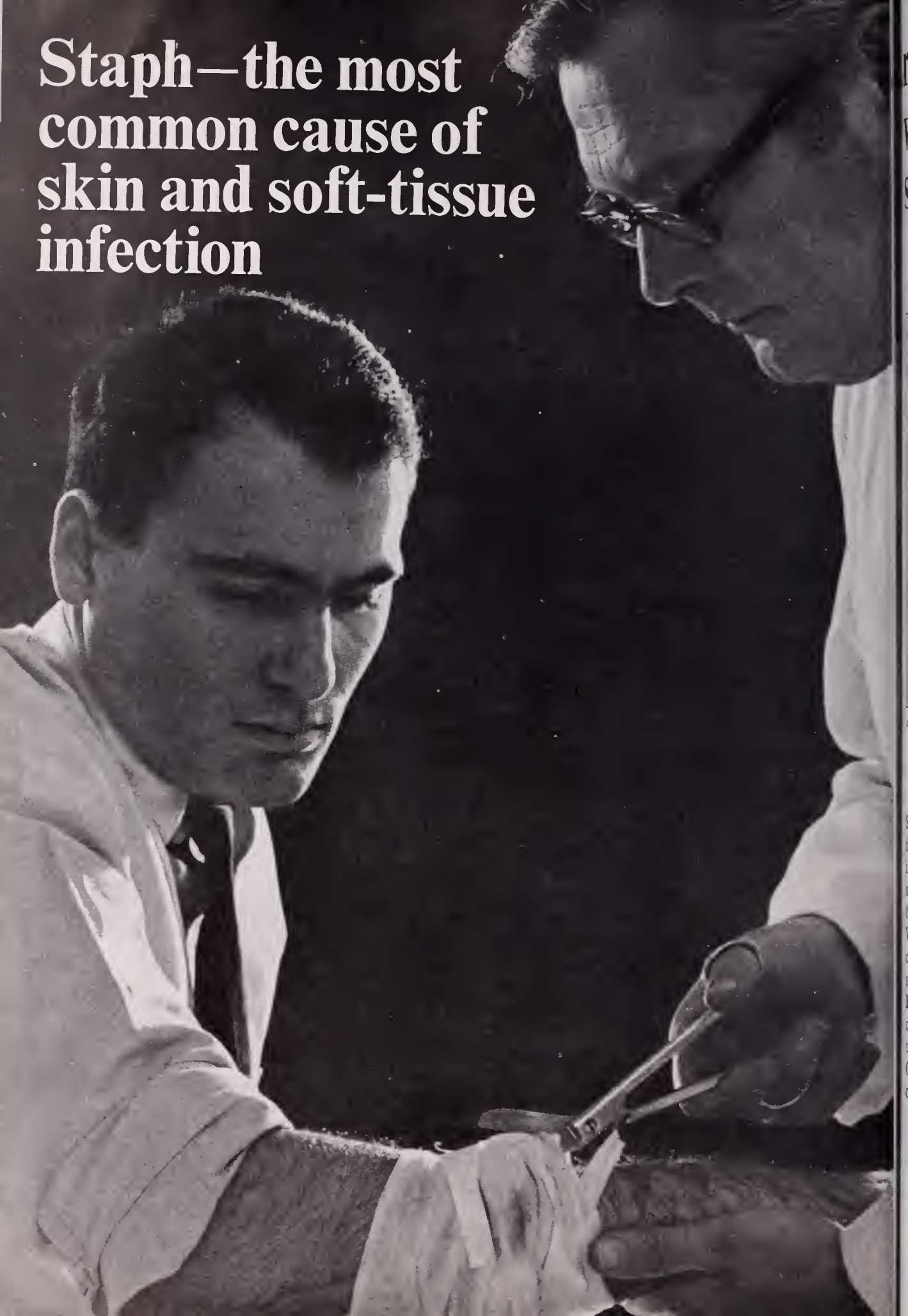
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**PRESCRIBING INFORMATION:** For complete information, consult Official Package Circular. **Indications:** Infections caused by Staphylococci, particularly those due to penicillin G-resistant Staphylococci. **Contraindications:** A history of severe allergic reactions to penicillin. **Precautions:** Typical penicillin-allergic reactions may occur. Safety for use in pregnancy and premature infants is not established. Because of limited experience, use cautiously and evaluate organ system function frequently in neonates. Mycotic or bacterial superinfections may occur. Assess renal, hematopoietic and hepatic function intermittently during long-term therapy. **Adverse Reactions:** Skin rashes, pruritus, urticaria, eosinophilia, nausea, vomiting, diarrhea, fever and occasional anaphylaxis. Rare cases of reversible hepatocellular dysfunction have occurred. Moderate SGOT elevations have been noted. Thrombophlebitis has occurred occasionally during intravenous therapy and leukopenia was noted in two cases. **Usual Oral Dosage:** Adults: 500 mg. q.4 or q.6h. Children: 50 mg./Kg./day. **Usual Parenteral Dosage:** Adults: 250-500 mg. q.4 or q.6h. Children: 50 mg./Kg./day. Treat beta-hemolytic streptococcal infections for at least 10 days. Give oral drug 1 to 2 hours before meals. **Supplied:** Capsules—250 and 500 mg. in bottles of 48. Injectable—250 mg., 500 mg., and 1 Gm. dry filled vial for I.M./I.V. use. For Oral Solution—100 ml. bottle, 250 mg./5 ml. when reconstituted.

**A.H.F.S. CATEGORY: 8:12.6**

**References:** 1. Abstracted from *Antibiotic Sensitivity of Staphylococci Studied from November 1962 through August 1965*, reported by Griffith, L.J., Staphylococcus Reference Laboratory, V.A. Hospital, Batavia, N.Y. 2. Data on file, Bristol Laboratories.

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Indicated in anxiety, tension, agitation, irritability, and anxiety associated with depression.

May be used in a broad range of patients, generally with considerable dosage flexibility.

**Contraindications:** History of previous hypersensitivity to oxazepam. Oxazepam is not indicated in psychoses.

**Precautions:** Hypotensive reactions are rare, but use with caution where complications could ensue from a fall in blood pressure, especially in the elderly. One patient exhibiting drug dependency by taking a chronic overdose developed upon cessation questionable withdrawal symptoms. Carefully supervise dose and amounts prescribed, especially for patients prone to overdose; excessive prolonged use in susceptible patients (alcoholics, ex-addicts, etc.) may result in dependence or habituation. Reduce dosage gradually after prolonged excessive dosage to avoid possible epileptiform seizures. Caution patients against driving or operating machinery until absence of drowsiness or dizziness is ascertained. Warn patients of possible reduction in alcohol tolerance. Safety for use in pregnancy has not been established.

Not indicated in children under 6 years; absolute dosage for 6 to 12 year-olds not established.

**Side Effects:** Therapy-interrupting side effects are rare. Transient mild drowsiness is common initially; if persistent, reduce dosage. Dizziness, vertigo and headache have also occurred infrequently; syncope, rarely. Mild paradoxical reactions (excitement, stimulation of affect) are reported in psychiatric patients. Minor diffuse rashes (morbilliform, urticarial and maculopapular) are rare. Nausea, lethargy, edema, slurred speech, tremor and altered libido are rare and generally controllable by dosage reduction. Although rare, leukopenia and hepatic dysfunction including jaundice have been reported during therapy. Periodic blood counts and liver function tests are advised. Ataxia, reported rarely, does not appear related to dose or age.

These side reactions, noted with related compounds, are not yet reported: paradoxical excitation with severe rage reactions, hallucinations, menstrual irregularities, change in EEG pattern, blood dyscrasias (including agranulocytosis), blurred vision, diplopia, incontinence, stupor, disorientation, fever, euphoria and dysmetria.

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## The Cancer Problem Today

OSMA  
JOURNAL / editorial

TODAY, doctors are in the forefront of the attack on cancer. They are often more optimistic about the disease than are laymen and their optimism is based firmly on experience. Again, a result of the change in the medical opinion about cancer prognosis has been the rising percentage of cures, the increasing number of lives saved. You could say that the 1,400,000 Americans alive today who once had cancer and were cured owe their lives at least in part to the willingness of the early American Cancer Society doctors and laymen to risk criticism and to brave the medical establishment.

Cancer is a problem of great depth and magnitude; the magnitude of the cancer problem when measured statistically is indeed overwhelming. This year, 300,000 Americans will die of cancer. Approximately 870,000 will be under care for cancer and 570,000 new cancer cases will be diagnosed for the first time. It has been estimated that 49,000,000 Americans now living will eventually have cancer, or about one in four persons, according to present rates.

Almost half of all cancer deaths in 1965 were persons under 65. Approximately 5,000 children under the age of 15 will die of cancer this year. Almost one-half of them will be victims of leukemia. Currently, there are approximately 21,000 cancer deaths annually of persons 15 to 44. Cancer is the leading cause of death among women. The annual manpower loss from cancer morbidity is 221,000 man years and the annual hospitalization cost is more than \$666,000,000.

The President's committee on heart disease, cancer, and stroke estimates that the total economic burden is 11.2 billion dollars each year in the United States.

Studies of the epidemiology of cancer show some interesting trends. There has been a rapid increase in the death rate from lung cancer until it is now the most common death producing cancer among men. On the other hand, there has been a marked decline in mortality from cancer of the stomach. These trends may reflect changes in human environment. Deaths from cancer of the pancreas and leukemia also are increasing.

Presented to the medical and lay volunteers of the Oklahoma Division of the American Cancer Society at its twenty-first annual meeting, December, 1966.

In women, the death rate from breast cancer has remained stable for the past 30 years, while the death rate in cancer of the uterus has been steadily declining. The fact that Japan has the highest rate from stomach cancer and the lowest from breast cancer has stimulated considerable research for causative factors, such as diet, living habits, geographical differences, and constitutional and genetic factors.

The President's commission has estimated that one-third of all patients with cancer are cured or survive at least five years after treatment at the present time. One-half of all cancer patients could be cured if knowledge already accumulated through research could be fully applied to all people in the nation. Cancer of the five sites of the body cause almost half of all deaths from cancer. These sites are the uterus, breast, colon-rectum, lung, and oral cavity. Fortunately, these five sites have a high potential for either primary prevention or cure.

The cancer problem, therefore, must be attacked from four sides: (a) Methods of early detection, diagnosis, treatment, case management and rehabilitation that are known to be valuable must be demonstrated repeatedly; (b) ideas for improvement in any of these aspects of the care of a cancer patient must be evaluated and developed into practical procedures of proved efficacy; (c) medical and para-medical personnel must have the opportunity to obtain training in the application of procedures of proven reliability; (d) the need to convince the lay public that there is hope for the cancer patient if he will seek application of known techniques of detection, diagnosis, and treatment.

More than 30 years ago, the late Doctor George Papanicolaou devised an effective smear test for the detection of uterine cancer. When uterine cancer is discovered *in situ*, it is almost 100 per cent curable. Yet this year, approximately 14,000 women will die of cancer of the uterus. It is estimated that less than half of the adult women in

the United States have had the "Pap" test. And this is 30 years after the test was first developed. If the "Pap" test could be given regularly to every adult American woman, we could eradicate uterine cancer as a cause of death in the United States. The Public Health Service recently launched a \$5,000,000 program to demonstrate the value of providing cervical cancer tests for the more than 8,000,000 women admitted to hospitals each year for any reason. The Public Health Service also is cooperating with the American Academy of General Practice to increase the use of routine cervical cytology in the office of the family physician and to report the five-year survival of all patients found with cervical cancer. The need for public education about the vaginal-cystologic examination ("Pap" test) was shown in a recent survey. Only six out of every ten adult women in the United States had heard of the "Pap" test and only three out of the six had undergone the test and more than half of these were overdue for another examination.

Over the years, the American Cancer Society has bombarded the public with the message that knowledge of the seven warning signals and/or an annual checkup might save them from dying of cancer. Many have heard and responded, but most have not. Studies and public attitudes toward cancer in the last 15 years have shown that the message was getting through—that the average person had increased his awareness of cancer threat and more were responding to the plea for an annual check-up. Yet the margin of increase has been too thin to have much effect on the rate of salvage.

One of the great questions of the moment asked, "How can we change what seems to have been a startling indifference toward saving one's life from cancer and where have we, as volunteers of the American Cancer Society, failed in getting our message to the public?" What factor can we identify as being the key to capturing public attention and stimulating action in time to avert the tragedy of cancer?

A national survey by the American Cancer Society of persons of all walks of life showed that less than one-half of the people

have had a cancer check-up. Although about a quarter of the public indicate they have regular check-ups that include tests for cancer and another 17 per cent say they have had such a check-up at one time or another, 57 per cent of all those interviewed report that they have never had a complete examination. Nine out of ten said they would have annual check-ups if their physicians told them they should do so. This astonishing percentage was found among both the "goers" and the "non-goers." Coupled with the fact that less than half the people feel doctors believe check-ups are necessary, is the disclosure that 90 per cent of those not having check-ups insist they would do so if their doctors told them to.

Thus it seems clear that the physician is indeed the key to making the check-up a success. One of the reasons why people do not go to their physicians for check-ups, according to the "non-goers" in this study, is that they believe doctors are for treating symptoms, not for conducting check-ups. This is one of the attitudes which must be changed.

These people who have not had a cancer check-up—the "non-goers"—also are the ones who have little knowledge of cancer's warning signals. One of the points that we have learned from this remarkable investigation of human attitudes is that those who know the signs of cancer are more likely to go to a physician for a check-up in time to save their lives when cancer occurs.

You and I must change this attitude and an effective way of doing this is to demonstrate to the patient that the family physician will listen to his complaint, however trivial, and endorse the annual check-up as the best defense against cancer.

We must enlist physicians in our local units and through our Professional Education. Our message must be so forceful that no physician will ever turn aside one who comes to him with the complaint about a persistent cough or what seems to be persistent indigestion and any other warning signals of cancer. We must now be sure that every physician will take this stand, and then we must be certain that one can always feel that his doctor's door is open to him without first being critically ill.

Let us set about to tear down the custom of doubt that keeps the patient and physi-



cian apart. The ACS needs your help in achieving a drastic cut-back of needless cancer deaths this year. We don't need any more machinery or methods to save the 100,000 people who die needlessly each year of cancer at these sites. All we need is to get them to the doctor in time. The problem is essentially communication. The message we must get across is this: "If you suspect cancer, get to a doctor without delay. Learn the warning signals; don't wait more than two weeks if you have one. Have an annual check-up; the indications are that one previously unsuspected cancer is found for every hundred check-ups—on an average, of course, but a striking statistic—one in 100."  
—*Ira O. Pollock, M.D.* □

## Open Letter

Francis A. Davis, M.D.

P.O. Box 1485

Shawnee, Oklahoma

Dear Doctor Davis:

Having received a poll—or a list of 54 questions from our delegate to the AMA, I feel that comment should be made. It is commendable that delegates and representatives are interested in the thinking of those they represent. For unbiased answers, questions should be as simple and straightforward as possible. I have been accused of "loading" polls but I flatter myself that at least I was somewhat more subtle than is our delegate.

I make reasonable effort to keep abreast of professional activities. I do not agree with all that is said or done. Neither do I expect all to agree with me. It is my belief that the AMA represents fairly well the majority opinions of the profession. We cannot allow individual or provincial thought to prevail, but it is important that minority views be presented.

I am opposed to governmental regulation of practice; to Medicare; to the extra work load made necessary by all the forms, certifications and recertifications, and unnecessary summaries that are being demanded. I am not opposed to the flag, but the REQUIREMENT that the flag be displayed in the lobby of every approved hospital becomes visible connotation of the federalization of hospital and medical care.

I am opposed to centralizing medical care facilities. Medical care must be had where

the patient is, not take the patient where the care is. Such a system leaves a gap in medical care that will be filled—and in all probability by charlatans, quacks, and any one who professes any degree of medical knowledge. If anything will bring on a deterioration of medical care that will. Some one must see the patient first. I care not by what name, he is called, whether he is board certified or not, there must and will be someone on the front line. Here must be the beginning of good medical care. What follows for a CENTER to treat might well depend on this first visit.

As to policies to contain or reverse the trend of governmental encroachment such should most certainly be promulgated. Policies that have failed should be abolished and new approaches sought. We lost the battle on Medicare by our constant adherence to fiscal and economic dogmata, does it seem possible that we can win the war on the same theme? Let us remember that we are considered to be poor economists. In addition to that such a theme provides strong ammunition in the form of our profession being interested only in mercenary affairs. Let us stage our new battleground where we are undisputed masters; that of good and continuing improving medical care. Certainly our best ammunition can be found in the deterioration of medical care, the lack of availability of medical care if centered, the needs for on-the-spot attention, and many other like facts. Think what the requirement for generic names will do?

We are going to make few if any points on arguments about fee schedules (and such is being developed); on direct billing or assignments; on distinctions between indigency or solvency; on forms and procedures; on the ethics of whether or not to conform; or on whether P.L. 89-97 is good or bad legislation and should or should not be made to work. If there is a "right" to medical care there follows that this care must be available, it must be good, and it must be functional.

I have not felt that our trustees should have been jailed; that President Hudson should be reprimanded (although I do not agree with him); nor do I feel that Doctor Annis would necessarily be any better trustee.

(Continued on page 182)





One of the most significant developments in the health field in our state is the "Regional Medical Program" being carried out under the auspices of the Oklahoma Medical Center.

This program — national in its scope but regional in its design and control—was created by congressional approval of Public Law 89-239, a measure formerly referred to as the "heart, cancer, and stroke bill." When the bill was first introduced it generated a great deal of opposition from organized medicine because it was treatment-oriented, and would have funneled patients to centralized clinics. However, the American Medical Association and its component medical organizations played leading roles to effect a score of amendments which altered considerably the intent of the legislation and the involvement of the Federal government in patient care. The changes also provided that planning and direction of the programs would be local responsibilities.

Emphasis will be on continuing education under the final version of the program. New techniques in caring for the prescribed disease conditions and related problems will be developed and disseminated to practitioners in their home communities through an inter-

change of information between the medical school and cooperating hospital medical staffs.

Some dramatic and unique communications tools for improving technical proficiency can be employed by the medical school in its capacity as the "hub" of a region encompassing the entire state of Oklahoma. While Tulsa and Oklahoma City will play vital roles, the program will be further extended to many other communities over the state.

Designation of Oklahoma as a "region" was requested by Governor Bellmon in the application for participation. The initial grant to the Oklahoma Medical Center is dedicated to a feasibility study of the entire state, and it will be a year or two before any operational program is launched. County medical society approval will be obtained before there will be any involvement with the Regional Medical Program.

To facilitate liaison with the Regional Medical Program and the Oklahoma State Medical Association, Doctor Marvin Margo of Oklahoma City will head an OSMA Regional Medical Program Liaison Committee.

There is little similarity between the Federal program originally envisioned and the current project underway. The Regional Medical Program has the potential of making remarkable improvements in the continuing education of physicians, an objective to which we have always been dedicated. □

*Ernie M. Gullatt, M.D.*

# Chemosurgical Treatment of Skin Cancer

WILLIAM R. R. LONEY, II, M.D.

*What is Mohs' chemosurgery?  
A discussion of the technique used in  
Mohs' chemosurgery and a case is  
presented to acquaint the reader with  
the benefits of this procedure.*

**WHAT** IS chemosurgery? Does it have a place in skin cancer therapy? Because these questions are being asked by many physicians, an evaluation and explanation of chemosurgery's role in treating skin cancer, especially difficult and recurrent lesions, seems warranted.

Doctor Frederic E. Mohs of the University of Wisconsin Medical Center pioneered the use of zinc chloride, an escharotic, in the treatment of skin cancer. Zinc chloride fixes the tissue *in situ*, enabling a map to be drawn and maintained on the patient and excellent frozen sections to be prepared from the tumor bed. Mohs has given this much maligned chemical a valuable role in the eradication of skin cancer. A review of the technique and cure rates speaks for itself as to the potential of chemosurgery in the treatment of skin cancer.

The chemosurgical approach to skin cancers has not been more widely used for the following reasons. First, zinc chloride (and other escharotics) have at times in the past been used by disreputable practitioners. Two, conventional methods, such as surgery and

irradiation have been ingrained "as the only answer" to skin cancer. Three, skill and know-how, both in surgical technique and pathology, are essential. Four, a technician trained in the preparation of frozen sections must be available. As pointed out by Leeper<sup>3</sup> with proper training and facilities, the above problems can easily be overcome and chemosurgery can take its place beside the curet, scalpel and roentgen rays as a useful tool in the treatment of carcinoma of the skin.

## HISTORY

Mohs working at the University of Wisconsin from 1932 to 1936 discovered that zinc chloride would fix living tissue *in situ*. Applying this discovery, he used frozen sections to map and follow areas of cancer on the skin. By repeated applications of the zinc chloride fixative and frozen sections of the residual cancer containing areas, he was able to follow the cancer until the sections showed a tumor-free bed. This technique was refined by Allington<sup>1</sup> in 1951. He suggested removal of the gross tumor with a scalpel or curet (using trichloroacetic or bichloroacetic acid for hemostasis), and then applying the zinc chloride, thereby reducing the length of active treatment.

## TECHNIQUE

As an illustration, an elderly white male with a large (0.9 x 4.8 cm) basal cell carcinoma of the right ala and cheek is presented. The lesion was recurrent after x-ray therapy. There was also a basal cell car-



Figure 1

cinoma of the lower septum and one or two squamous cell carcinomas (the two areas ran together and may, or may not, have been one tumor) of the left ala, which were treated chemosurgically at a later date.

The gross tumor (figure 1) on biopsy proved to be a basal cell carcinoma. The visible tumor was removed under local anesthesia (xylocaine one per cent) with a scalpel and curet. Bleeding was controlled



Figure 3

with trichloroacetic acid 50 per cent (figure 2). Zinc chloride fixative then was applied and 24 hours later the tumor bed was removed in five sections. A map was marked on the patient (figure 3), as well as on paper (figure 4, first day). Two adjoining edges of each of the five sections were marked with Mercurochrome and bluing (represented by the solid and dotted lines respectively on the paper map) for orientation under the microscope. The frozen sections, cut horizontally from beneath the five tissue sections, were read using an AO binocular microscope. Areas of residual cancer were marked on the paper map and zinc chloride fixative was reapplied to the corresponding



Figure 2

MAPS

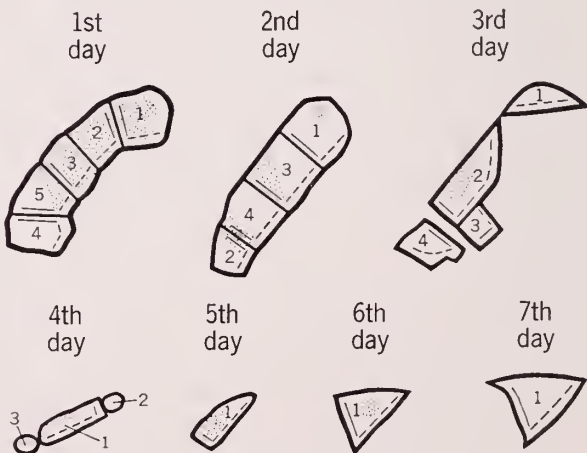


Figure 4. Residual cancer represented by stippled areas.





Figure 5



Figure 6

areas of the tumor bed. This process was repeated every 24 hours until a microscopically cancer free plane was reached.

Of interest is the fact that that patient's main tumor mass was a nodular basal cell carcinoma. However, an area of extension up the center of the ala became morphea in character just before a tumor free plane was reached.

The maps in figure 4 show the first through the seventh day of active treatment. The photomicrographs illustrate the nodular basal cell carcinoma (figure 5) on the first day of treatment and the morphea type basal cell carcinoma (figure 6) on the next to the last day of active treatment.

Separation of the basal layer (the remaining fixed tissue, about one mm deep) occurred in four to five days. There was no bleeding at that time and the granulation tissue (figure 7) was excellent. The wound healed by secondary intention in approximately six weeks.

The patient did not wish a plastic repair, which could have been done because the granulation tissue following chemosurgery (unlike post irradiation tissue) has a good

blood supply and supports grafts well.

Figure 8 shows the patient six months after chemosurgery. The treated area is free of cancer two and one-half years following chemosurgery.

#### CURE RATES

Mohs in treating more than 1,071 basal cell carcinomas, reports a cure rate in excess of 98.2 per cent. His series includes approximately 30 per cent that were recurrent following surgical or x-ray therapy.

Leeper's cure rate is 100 per cent in 213 cases of basal cell carcinoma of the skin using the chemosurgical approach.<sup>3</sup> Both series of patients were followed for five years or longer.

Tromovitch, *et al.*, treated 102 recurrent basal cell carcinomas using chemosurgery with a five year cure rate of 93.1 per cent.



Figure 7

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*A 1955 graduate of the University of Minnesota School of Medicine, William R. R. Loney, II, M.D., has been certified by the American Board of Dermatology. In addition to his practice in Bartlesville, he is a visiting clinical instructor at the University of Oklahoma School of Medicine.*

*Doctor Loney is a member of the American Academy of Dermatology, the Southern Medical Association and the Oklahoma State Dermatology Society.*



Figure 8

Mohs' five year cure rate for squamous cell carcinomas of the skin (including many very large and recurrent lesions) is 84.8 per cent for 483 cases.

#### ADVANTAGES AND DISADVANTAGES OF THE CHEMOSURGICAL TECHNIQUE

##### ADVANTAGES

1. The physician can follow small extensions of cancer which is especially important near vital structures and for recurrent lesions.

2. A minimal amount of normal tissue is removed which makes plastic repair far easier when necessary.

3. Healing is excellent.

4. Cure rates are high.

5. Follow-up is essential in any cancer therapy and anyone treating many cancers has some recurrences. Because chemosurgical wounds heal from below recurrences are easily diagnosed.

6. Most cases are done on an outpatient basis, cutting down on both the patient's time and expenses.

7. Local anesthesia, which is safer, is used in most cases.

##### DISADVANTAGES

1. Special training is needed in using the fixative as well as in preparation and reading of the frozen sections.

2. The procedure itself is tedious.

3. Some pain is involved during the active treatment, which usually can be controlled with codeine or occasionally morphine.

4. Occasional bleeding during separation of the basal layer may be troublesome. This can be controlled by a thorough knowledge of the anatomy of the area being treated and the placing of a suture ligature around any large vessel which might bleed.

5. This is a surgical procedure and any surgical procedure destroys tissue.

#### SUMMARY

Mohs' chemosurgical technique involves removal of a skin tumor with a scalpel and/or curet, followed by the application of a zinc chloride fixative to the tumor bed. The fixative penetrates from one to ten millimeters, depending on the thickness of the fixative used, and forms a relatively painless bloodless field in which to work. By fixing the tissue *in situ* a physician can (1) remove the tumor bed in sections, (2) map the tumor bed area and (3) prepare frozen sections and examine them microscopically. The fixative is then applied again and repeated sections are made and examined until a tumor-free area is reached. Healing is excellent and cure rates are high, even with recurrent lesions. □

*Acknowledgements:* Doctor C. Maurice Coffey referred the patient. Doctor Jess Green reviewed and consulted on the difficult microscopic sections. Mrs. Marilyn Russum gave editorial assistance on the manuscript.

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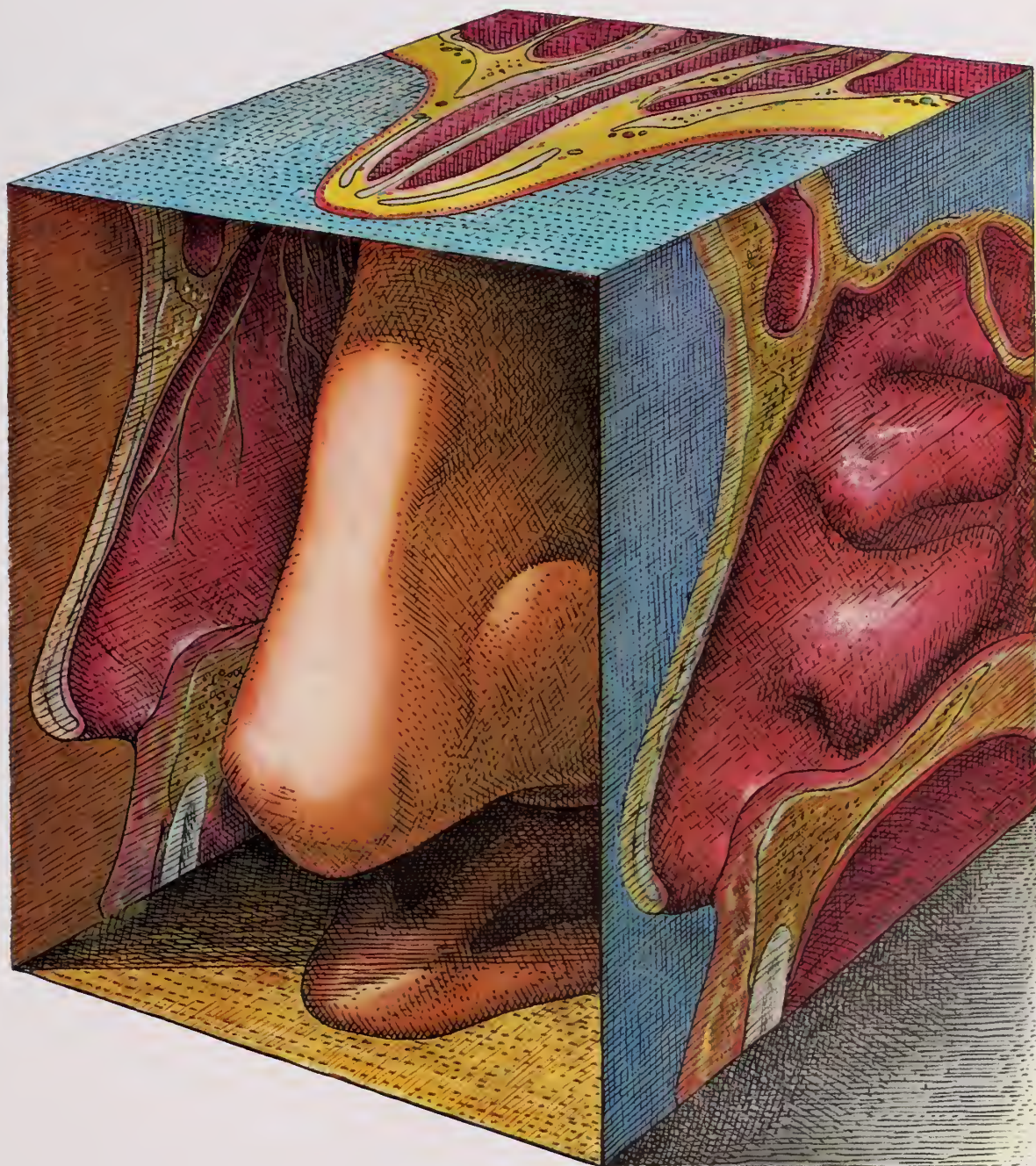


DORSEY

spring 1967

# Season

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this issue: the ubiquitous world of



summer allergies





# The ubiquitous world of summer allergies

Donald L. Unger, M.D. • Clinical Assistant Professor, Department of Medicine (Allergy), Stritch School of Medicine (Loyola).

In the Spring a young man's fancy lightly turns to thoughts of—allergies. This is at least true of the 10% of the population who have hay fever and the 4% who have asthma.<sup>1</sup> The snow melts, the trees blossom and the noses run. Patients who were fine all winter may not be enthralled by the sight of the first robin or the blossoming of a crocus, for their appearances may precede the "sneezin' season."

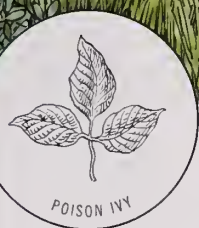
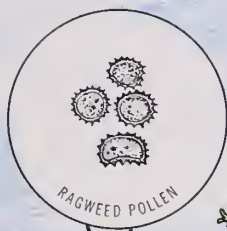
Allergies in general can be divided into winter allergies and summer allergies. In the winter the main problems are inside the house: e.g. dogs, cats, dust and feathers. Houses in the northern half of the country become so dry that it becomes essential to add humidity to the home; this is a far cry from the damp summer months with the moldy basements and need for dehumidifiers.

**E**arly in April trees begin to pollinate, with each tree having about a two week period of pollination. A particular patient may be sensitive to only one tree and thus have his hay fever for such a short time that he thinks he has a cold.<sup>2</sup> The entire tree season starts about April 1 and ends about Memorial Day, al-

though all hay fever seasons are blurred and prolonged in the southern part of the country. Tree pollen is usually very heavy and a person may well have most of his exposure from those trees immediately surrounding his home.

Grasses pollinate from about May 15 until July 4, and cause "rose fever." Grass pollens are somewhat lighter and more buoyant than tree pollens, and are much more ubiquitous. While there are several varieties of grasses in the United States, they are so closely related antigenically that a person sensitive to one is generally sensitive to them all.<sup>3</sup> Thus, while the tree season is really several small seasons intertwined, the grass season will usually result in symptoms for a more prolonged period. Obviously, a grass-sensitive patient will have trouble only when grass is pollinating—he will have to think of another excuse not to mow the lawn after July 4.

**R**agweed is the "Big Daddy" of them all in the eastern two-thirds of the country. Pollination is generally from mid-August until the end of September, with the predicted lower counts and longer seasons



in the southern part of the country. Ragweed is a very light pollen which may be windborne for hundreds of miles. An interesting study was made in New York City, in which 90% or more of the ragweed plants were destroyed in three of the five boroughs; pollen counts done during the season were virtually identical in all five.<sup>4</sup>

Ragweed is, of course, the most common cause of hay fever and is associated with an incredible loss of man hours from work each year. Many is the patient who travels to areas where the pollen count is low, just to avoid having symptoms. There is no ragweed anywhere in the world except the United States and portions of Canada and Mexico.

**W**hile molds are present through the year, the most important ones predominate from April until November. An old wives' tale has ragweed ending with the first frost, when actually it ends a good month earlier. It is *Alternaria*—the kingpin of the molds—that meets a sudden demise with the first frost. *Alternaria*-sensitive patients are in their glory when there is snow on the ground, and might be ideally suited to man the radar stations in Alaska. In September and October, *Alternaria* counts are at their highest, perhaps associated with the burning of leaves. Other molds such as *Hormodendrum* and

*Helminthosporium* are associated with the warmer weather, as opposed to *Penicillium* and *Aspergillus* which are household molds.

Summer also means the return of our much maligned associates—bugs. Insects cause allergic symptoms by two methods: the bite or sting of the Hymenoptera group, and the inhalation of particles of the bodies of various insects. Wasp stings are the oldest known form of allergy, as they caused the death of one of the pharaohs in ancient Egypt.<sup>5</sup> Bees, wasps and hornets account for many deaths in this country, and those sensitive to them should carry special treatment kits at all times; a few minutes delay in the administration of epinephrine to such a patient, might be the difference between life and death. Inhalation of particles of insects may cause sneezing and wheezing in a susceptible individual.<sup>6</sup> Both of these forms of insect allergy may be benefitted by hyposensitization.

The insect recognizes no professional bounds. He is as apt to bite the physician as the patient. So this season, beware of bugs. And beware, too, of poison ivy. That pleasant stroll through the woods and underbrush with the Boy Scouts might turn into a

*(Concluded on following page)*

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nightmare for the botanically uninitiated in the causes of rhus dermatitis (poison ivy, poison oak and poison sumac). Although you may have been careful, your dog may not have noted that it wasn't clover he jumped through, but poison ivy. His return to your side may give you the rhus dermatitis that you so carefully avoided. That heavenly campfire may be emitting particles of rhus oil to produce an airborne contact dermatitis of the exposed areas of the body.

**a**nother fascinating, but rather infrequent type of summer allergy is physical allergy. Some people sneeze on exposure to sunlight, while others break out in rashes, usually on the exposed parts of the body. These rashes may well follow the administration of various photosensitizing drugs, e.g. demethylchlortetracycline.<sup>7</sup> Another form of physical allergy and one that may be lethal in the summer, is cold allergy. Yes, I mean cold allergy, not heat allergy. The cool dip on a hot day with its consequent sudden chilling of the body, may be the coup de grace for a cold sensitive patient.<sup>8</sup> It is customary to write "heart attack" on the death certificate, even though the victim may have been an 18-year-old boy who looks like a Greek god.

Lest the reader be depressed by this saga of afflictions associated with the warmer months, perhaps he should remember that it is also a time for swimming, baseball, lying in the sun and taking that long-planned vacation. So let's all join in a chorus of "In the Good Old Summertime," as we sneeze, wheeze and scratch. Be careful of your suntan lotion, however; it may cause you a contact dermatitis.

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# Molecular Influences Affecting Growth and Development

JAMES L. DENNIS, M.D.

*Physical growth and development depends on molecular influences. Illness, malnutrition, endocrine, metabolic and genetic disorders disrupt protein synthesis by the ribosomes. In the growing child this disruption impairs normal increments in the growth process.*

RECENT ADVANCES in the basic sciences make the study of growth and development a highly specialized field of human developmental biology.\* Knowledge of growth and development has gone from the general to the specific, from the total child to the gene and from adult maturity to conception. Among other things, normal growth (increment in size) and development (maturation of function) depend on the availability of appropriate hormones, at appropriate times. Hormone synthesis is enzyme dependent and hormone action depends on influences mediated by the activation, acceleration, or inhibition of specific enzyme systems. Complexity is immediately apparent: We cannot consider growth and development without considering hormones, hormones without considering enzymes, enzymes without considering genes, or genes without considering nucleotide DNA-RNA chemistry.

\*To the biologist growth and development represent *ontogeny* (the story of the growth and development of the individual organism). In the future, the expert or specialist in human developmental biology might appropriately be called an "ontogenist."

Hormones and enzymes, as well as most tissues, are proteins, hence, growth is dependent on protein biosynthesis. A protein molecule consists of one or more polypeptide chains with a variety of side chains that provide "chemical shape." For a cell to manufacture a specific polypeptide chain and no other, in the face of an almost infinite number of possibilities, requires some kind of a specific blueprint of information. Since proteins do not replicate themselves and the only bodies within the cells that do replicate are the chromosomes, it follows that the chromosomes must carry the "blueprint" or genetic code. The "code" is written in the structure of the deoxyribonucleic acid (DNA) making up the gene. Each gene has somewhere in its structure the exact "blueprint" for the polypeptide whose synthesis is controlled (a "reference code" carried down from cell to cell, from organism to organism and to succeeding generations). Matching and rematching the reference code provides a mechanism for producing as many polypeptide chains (proteins) of the same kind as the cell requires.

In contrast to DNA which is confined to the chromosomes, RNA (ribonucleic acid) is found outside the nucleus, in the cytoplasm. In the gene the nucleic acid molecule has a deoxyribose portion with a phosphate group attached on one side and either a purine or pyrimidine group attached on the other, forming a nucleotide. The same is true for RNA except the sugar complex is formed by ribose instead of deoxyribose. Like peptides, nucleotides link together to form polynucleotide chains. Just as the polypeptide chain has various side chains that provide it with mo-

lecular diversity, shape and identity, the polynucleotide chain is "shaped" by the projections of the purines and pyrimidines. Where there may be up to 22 different side chains in a polypeptide, there are only four different purines or pyrimidines projecting from a single nucleotide. It is estimated that an individual gene may be comprised of a nucleic acid molecule made up of a chain of from 200 to 2,000 nucleotides.

The Watson-Crick model of the nucleic acid molecule is made up of two polynucleotide chains forming an interlocking helix about the same central axis. The sugar-phosphates (DNA or RNA phosphate) form the lines or structural backbone of the helix, with the nucleotide side chains of purines and pyrimidines pointing inward toward the center. The purines of one strand always bond with the pyrimidines of the other. Which of the two purines combine with which of the two pyrimidines? It has been found that an adenine must be hydrogen bonded to a thymine (or in RNA to uracil) and a guanine must be hydrogen bonded to a cytosine, hence, the two strands of the helix are complementary, one matches the other by "opposites." Thus, if we designate A for adenine, T for thymine, G for guanine and C for cytosine and if the nucleotide sequence in one DNA chain is TAAACAGGTGTCT, then the corresponding portion of the other chain would have a sequence of ATTTGTCCACAGA. This makes it possible for the various molecules comprising genes (DNA) to replicate themselves by a process in which each strand serves as a model for the other.

Special techniques utilizing tagged amino acids and ultracentrifugation have shown that DNA is exclusively concentrated in the cell nucleus and that the DNA concentration in the different cells of a particular organism is a constant (not surprising since every cell has the same set of chromosomes except sex cells where there is only a one-half chromosome complement. The DNA concentration in ova and sperm has been found to be only one-half of that of somatic cells.).

RNA is concentrated largely in the cytoplasm, a very variable and wide range of concentration is characteristic and RNA concentration is highest when active protein

synthesis is taking place. Most of the cytoplasmic RNA is found in particulate bodies called microsomes. Electron microscopy has demonstrated a further concentration within even smaller bodies within the microsome: These are ribosomes. The microsomal-ribosome RNA sites provide the "protein factories" of the cells, hence, of organs and obviously are critical to growth and development.

DNA-RNA pathways may be summarized in outline as follows:

(1) By Watson-Crick replication a special type of RNA is formed from DNA. This RNA carries the imprint of the DNA genetic code from which it was formed and transports it to the ribosomes, hence it is called messenger RNA or template RNA (a "template" or "mold").

(2) Messenger RNA will attach to any unoccupied or blank ribosomal RNA. The messenger RNA provides the pattern for "shaping" the blank ribosomal RNA which has been compared to a "key blank" which can be made to fit any lock when properly shaped. Once "keyed in" ribosomal RNA is ready to manufacture a specific protein (messenger RNA is made up of hundreds of nucleotides arranged in a sequence exactly complementary to the nucleotides on some segment of gene DNA, this sequence, imprinted on the ribosomal RNA determines the amino acid-peptide sequences, hence, the kind of protein to be synthesized).

(3) After one, or a few, protein molecules have been formed, messenger RNA

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*Among his medical affiliations are the Alpha Omega Alpha, the Association of American Medical Colleges, a life member of the American Academy of Pediatrics and an associate member of the American Academy of General Practice.*

*Doctor Dennis is a member of the Council on Scientific Programs and Chairman of the Section of Pediatrics of the American Medical Association.*



tends to break down leaving the ribosomal RNA blank again, ready to be keyed in for another, or the same protein. The whole process only requires two to three minutes.

The foregoing is, of course, grossly oversimplified. All stages of nucleotide, peptide, polypeptide linkage require and are influenced by the presence of appropriate substrates (enzymes, co-enzymes, hormones, proper pH, etc.).

A third type of RNA called soluble RNA (sRNA) is found freely soluble in the cytoplasmic fluid and is extremely important to the total process of protein biosynthesis. There is a soluble RNA for each amino acid. A specific sRNA will attach itself to one particular amino acid and to no other; once attached, it directs the transfer of its amino acid to an attachment at one specific point on the messenger RNA. sRNA aims for attachments where there are combinations of three of the four kinds of nucleotides found in the ribonucleic acid molecules; *i.e.*, adenylic acid, guanidilic acid, cytidilic acid and uridylic acid (A,G,C,U). Various "triplet" combinations of these are specific for specific amino acids. For example, if histidine sRNA has an AUG place of attachment it will attach only to a UAC triplet attachment on the messenger RNA. In this manner the messenger RNA picks up its amino acids in the same sequence originally dictated by the DNA of the gene. Once the amino acids are in place, in close proximity and in proper sequence, essential enzymatic processes bring about a reaction that links the amino acids into one specific chain producing a ribonucleoprotein. Obviously protein biosynthesis involves more than the DNA-RNA pathways and the principal steps in the biochemical mechanisms within the cell can be summarized.

(1) *Free amino acids* must be available within the cell, these may represent (a) essential amino acids, transported into the cell from extracellular fluid, or, (b) non-essential amino acids synthesized within the cell by the fixation of  $\text{NH}_3$  with Alpha-ketoglutarate to form glutamic acid which by transamination may be converted to any non-essential amino acid.

(2) *Free amino acids + ATP* are activated to form *amino acid-adenylates*.

(3) *Amino-acid adenylates + soluble (transfer) RNA form sRNA-amino acid complexes.*

(4) *sRNA-amino acid complex + GTP (guanosine triphosphate)* effects the transfer of sRNA-amino acids into the microsomal ribosomes where—

(5) *RNA-amino acid linkage (peptide bonding)* results in the production of *ribonucleoproteins*.

(6) The completed *microsomal-ribonucleoprotein* is "stripped" from the ribosome and released into the cytoplasm as new *protein*.

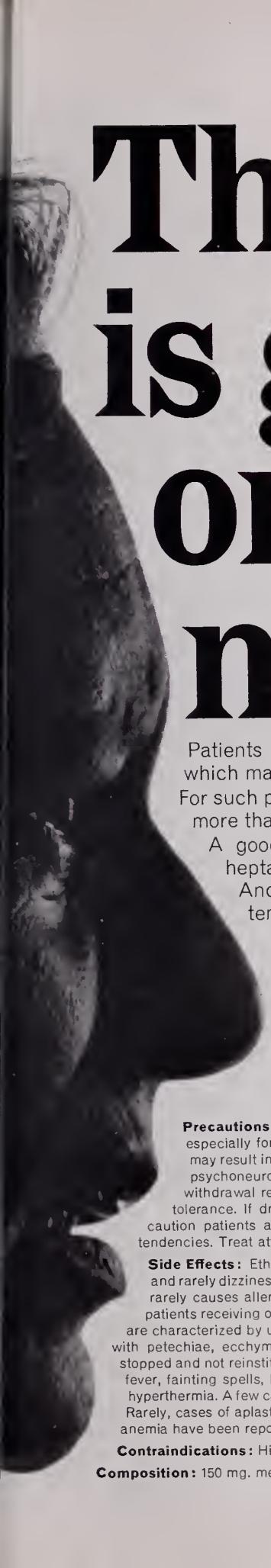
It is of great interest that the site of the anabolic stimulation exerted by anabolic steroids appears to be right at the microsomal-ribosomal level, a very significant observation in terms of hormonal influence on growth. This observation also confirms previous studies related to growth inhibiting properties of tetracyclines where it was postulated that protein synthesis was blocked by tetracyclines at the step where RNA-amino acid complexes react with microsomal RNA. On the basis of this postulate, Lepper demonstrated that anabolic steroids reversed the growth inhibiting effects of tetracyclines. (Lepper, J. W., *Ann. Int. Med.*, March, 1963.)

It is evident that the first step in the growth process is protein biosynthesis and that this can be influenced by growth promoting hormones. Since hormones activate, or inhibit, enzyme systems and in turn are activated or inhibited by enzymes, it is not surprising that serious growth failure accompanies many inborn errors of metabolism, due to the inability of abnormal genes to produce essential enzymes. Another clinical evidence of enzyme-hormone essentiality to growth is found in children with severe and chronic malnutrition. In malnutrition the enzyme levels are demonstrably low, if subminimal levels persist, the pituitary functions at "hypo" levels with a consequent depression of function in the target glands, hence, hormonal deficiency and further depression of enzyme levels that are necessary to sustain growth. Ultimate answers to growth problems lie at the molecular level. □

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**Side Effects:** Ethoheptazine and aspirin may occasionally cause nausea, vomiting, epigastric distress, and rarely dizziness and CNS depression. Overdosage may result in salicylate intoxication. Meprobamate rarely causes allergic or idiosyncratic reactions. These reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Mild reactions are characterized by urticarial or erythematous maculopapular rash. Acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever have been reported. Meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioedema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. A few cases of leukopenia, usually transient, have been reported following prolonged dosage. Rarely, cases of aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis, and hemolytic anemia have been reported; almost always, in the presence of known toxic agents.

**Contraindications:** History of sensitivity or severe intolerance to aspirin or meprobamate.

**Composition:** 150 mg. meprobamate, 75 mg. ethoheptazine citrate and 250 mg. aspirin per tablet.

Wyeth Laboratories Philadelphia, Pa.

# Neurolept Analgesia:

## A Clinical Evaluation of 106 Cases

HEINRICH W. TEUTEBERG, M.D.  
JERRY E. KING, M.D.  
WALTER H. MASSION, M.D.\*\*

*Two new compounds, a tranquilizer and a potent analgesic, have been combined to provide anesthesia and vegetative protection during surgery.*

FOR SEVERAL YEARS there has been a renewed interest in the use of combinations of narcotic analgesic and neuroplegic drugs for surgical anesthesia. The first step in this direction was the use of the lytic cocktail, a combination of phenothiazines and meperidine intended to provide basal narcosis to "set the system at rest."<sup>1</sup> The synthesis of more readily controllable drugs<sup>2, 3</sup> has led to the concept of neurolept analgesia,<sup>4, 5</sup> which is defined as a reduction of the autonomic nervous system activity through selective drug effects on the thalamus, hypothalamus, reticular system and *alpha* adrenergic receptors.<sup>6</sup> Neurolept analgesia is characterized by vegetative protection and freedom of pain. These effects can be produced by Innovar\*, a combination of two agents: A tran-

quilizer and a potent analgesic. Innovar consists of droperidol (Inapsine) and fentanyl in a ratio of 50 to one. It is available for investigational use in this country in five ml. ampules containing 2.5 mg. droperidol and .05 mg. fentanyl per ml. These drugs also can be obtained separately.

**Pharmacology:** The narcotic, fentanyl (figure 1), is a meperidine derivative. It is said to have an analgesic property of 50 to 100 times that of morphine.<sup>7, 8</sup> Its action is quick in onset and shorter lasting than other narcotics. After intravenous injection of .2 to .3 mg. the maximum analgesic effect appears within two to three minutes.<sup>8</sup> Effects on the circulation are minimal. It is a severe respiratory depressant affecting both rate and depth of respiration. This may occur within one minute after intravenous injection and progresses to apnea which lasts about seven minutes. After 15 to 30 minutes the respiration is said to be adequate again.<sup>9</sup> The drug seems to produce a central vagal stimulation as manifested by bradycardia and sweating. This can be abolished or reduced by a preoperative dose of atropine.<sup>10</sup> Like other narcotics, fentanyl may produce nausea and vomiting. Generalized or localized rigidity of the catatonic type has been seen after

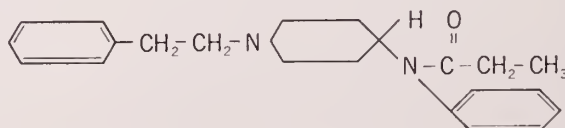


Figure 1. Structural formula of Fentanyl.

Read before the meeting of the Oklahoma State Society of Anesthesiologists, Oklahoma City, October 31st, 1965.

\*Innovar, Inapsine and fentanyl for this study were kindly supplied by McNeil Laboratories, Ft. Washington, Pennsylvania.

\*\*From the Department of Anesthesiology, University of Oklahoma School of Medicine, Oklahoma City, Oklahoma.

Doctor Massion is the recipient of USPHS Career Research Development Grant 5-K3-GM-17,651.



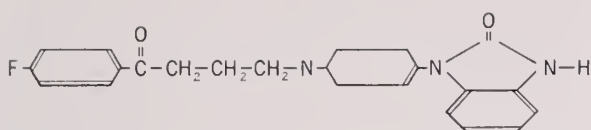


Figure 2. Structural formula of Droperidol (Inapsine).

rapid or massive intravenous injection.<sup>10</sup> All actions of fentanyl can be effectively antagonized either by nalorphine or levallorphan.

Droperidol (Inapsine) (figure 2), a butyrophenone derivative, is an *alpha* adrenergic blocking agent and a potent tranquilizer and antiemetic. Sleepiness and the feeling of detachment usually occur five to ten minutes after intravenous injection. Duration of action is from six to 12 hours.<sup>10</sup> Effects, however, may last as long as 24 hours.<sup>8</sup> It causes a decrease in systolic blood pressure in man and in animals but to a lesser degree than the commonly used phenothiazines. The hypotension has been corrected by doses of methoxamine or ephedrine.<sup>9</sup> A moderate increase in heart rate also has been observed.<sup>9</sup> Droperidol has been shown to reduce the pressor effects of epinephrine. Other evidence of *alpha* adrenergic blocking action has been shown in studies on dogs where it was difficult to induce arrhythmias with epinephrine infusion.<sup>12</sup> Extrapyramidal tract signs have been observed in a few cases 12 to 18 hours after administration of the drug.<sup>8</sup>

The administration of both drugs tends to potentiate the respiratory depression of the narcotic alone. Another observation is the apparent dissociation between the relative degrees of respiratory and cortical depression. Studies in dogs have shown that there is no significant change in plasma levels of histamine, serotonin, epinephrine, or norepinephrine.<sup>11</sup> Postoperative liver function studies have shown no abnormal findings.<sup>13</sup>

Droperidol and fentanyl have been used clinically in various ways. They have been given separately, one following the other; and they have been administered in prepared mixtures such as Innovar. The combination of drugs has been given as either a single injection or in diluted forms such as a drip, with or without nitrous oxide as an adjunct.<sup>4, 5, 6, 10, 14</sup>

Our interest in this drug was stimulated by favorable reports in the literature which suggested that their use might avoid the undesirable properties of commonly used anesthetic agents, such as depression of the circulatory system, slow induction and recovery, flammability, nausea and vomiting.

## METHODS

Observations were made on 106 patients undergoing elective or emergency surgery. In distribution of age, sex, anesthetic work and types of surgery, they can be considered a representative sample of patients at our institution (tables 1-3). It is evident that more than 50 per cent of our patients were in the higher risk class. Five patients underwent emergency surgery. The duration of surgery varied. One case lasted less than one hour. In 47 per cent surgery lasted from one to two hours and in 25 per cent two to three hours. The duration was three to four hours for 14 per cent, four to five hours for

Table 1  
Age Distribution of 106 Patients

Age in Years	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80 & Older
Number of Patients	10	12	20	18	20	20	4	2
Per Cent	9	11	19	17	19	19	4	2

Table 2  
Anesthetic Risk

Physical Status	1	2	3	4	E
Number of Patients	36	46	19	—	5
Per Cent	34	43	18	—	5

Table 3  
Surgery Performed

Type of Surgery	Number of Cases	% of 106 Total
Intracranial	1	1
Head and Neck	27	25
Major Abdominal	47	44
Intrathoracic	9	8
Extremities	10	9
Urological-Gynecological	11	10
Open Heart	1	1

four per cent, and five hours or longer for ten per cent. The preanesthetic medication was no different from our usual practice and consisted of pentobarbital or meperidine, usually in combination with hydroxyzine. Atropine was always included.

Anesthesia was induced by slow intravenous injection of Innovar, titrating the amount necessary to produce profound sedation. Usually from six to ten ml. were needed, that is 0.3 mgm to 0.5 mgm of fentanyl and 15.0 mgm to 20 mgm of droperidol. With the patient still able to respond to verbal command a mask was applied and nitrous oxide-oxygen at a flow of either six to two or 3.5 to 1.5 l. per minute was administered in a semi-closed system. In a few minutes unconsciousness developed and intubation was accomplished after intravenous injection of succinylcholine. Controlled respiration was used in most cases with a 3.5 to 1.5 l. per minute flow of nitrous oxide-oxygen. D-tubocurarine was given for muscle relaxation if required. If anesthesia became light as evidenced by elevation of blood pressure or a rise in pulse rate, two ml. increments of Innovar or .05 to .1 mg. doses of fentanyl were given intravenously. The average total dose of Innovar was ten ml., the maximum 18 ml.

#### RESULTS

The following clinical observations were made:

*Respiration:* Both rate and depth of breathing were reduced within five minutes after induction. The exact duration of respiratory depression was not determined since the respiration was controlled in most patients. Evaluation of the few patients, however, whose respirations were assisted showed that rate and depth of breathing returned to almost pre-injection levels within 15 minutes. In patients receiving muscle relaxants, the return of spontaneous ventilation usually occurred promptly after discontinuation of controlled respiration and was certainly no more difficult to achieve than with the use of the nitrous oxide-meperidine-relaxant technique. Only two patients showed signs of postoperative respiratory depression

Table 4  
Circulatory System

Maximum Decrease of syst. BP in mm Hg.	< 10	10-20	21-30	31-40	>40
Number of patients	34	30	18	10	14
Per Cent of 106 cases	32	28	17	9	13

and required injection of a narcotic antagonist. One of these was a patient scheduled for an abdominal hysterectomy where the surgeon altered his plans and performed only a dilatation and curettement after ten ml. of Innovar had already been injected. The other case was an oral surgery procedure where a supplementary dose of fentanyl had been given shortly before the operation was completed.

*Cardiovascular Effects:* Our observations confirmed the reports from most other investigators that the fentanyl-droperidol combination is characterized by a remarkable cardiovascular stability once anesthesia has been induced. In 68 per cent of the patients an initial systolic blood pressure depression of greater than ten mm. Hg. was observed. In the majority of cases, this was less than

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30 mm. Hg. and occurred usually within the first ten minutes (table 4). It was probably due to the *alpha* adrenergic blocking effect of droperidol. Rapid infusion of five per cent glucose or Ringer's lactate in the first half hour of anesthesia was usually sufficient to compensate for the peripheral vasodilation. With this therapy the decrease in blood pressure usually did not last longer than 20 minutes and later returned to normal or nearly normal limits. We were impressed by the fact that maneuvers like extreme positioning on the operating table, such as kidney rest elevation, traumatic surgical exploration, or sudden blood loss rarely affected the blood pressure. Some slowing of the heart rate was observed in most patients after induction. Otherwise, the pulse rate usually did not show any change of significant degree if analgesia was maintained. An increase in pulse rate was often an indication of the need for additional administration of fentanyl.

*Rigidity of Skeletal Muscles:* Rigidity of skeletal muscles was observed in seven patients. The muscles affected included the extremities, thorax, and abdomen. Usually these were patients where the induction dose was either too high or injection was given too rapidly. When positive pressure was applied to assist ventilation, an increased respiratory resistance was noticed. A small dose of muscle relaxant usually abolished rigidity and produced a flaccid state.

*Postoperative Period:* As a rule, the emergence from anesthesia was smooth. The patient awakened peacefully, free of pain, and was able to converse rationally shortly after nitrous oxide was discontinued (table 5). Although consciousness and orientation soon returned, many patients were drowsy for a number of hours afterwards and slept lightly unless aroused. Two patients complained of mental depression and inability to concentrate for six to eight hours postoperatively. In the majority of cases freedom

from pain seemed to last at least three to four hours. Postoperative nausea and vomiting occurred in only four of the patients and were of short duration.

In an attempt to assess the liver toxicity of Innovar, every fifth patient in our series had preoperative and postoperative liver function studies (SGOT). Our data have not shown significant changes between preoperative and five-day postoperative values. This could be interpreted as preliminary evidence against hepatotoxicity.

## DISCUSSION

In this study, the neurolept technique combined with nitrous oxide inhalation provided good analgesia and hypnosis. Muscle relaxation was lacking and supplementation by d-tubocurarine was required for intra-abdominal operations. Thus the technique very much resembles that of the classic nitrous oxide-meperidine technique but appears to have certain advantages.

The short duration of respiratory depression was notable. This depression, however, was severe enough that verbal instruction to breathe or controlled respiration was necessary to prevent asphyxia. Cardiovascular stability was remarkable during the course of anesthesia. On the whole, alterations in pulse rate and blood pressure were less common than with other anesthetic techniques. While some fall in blood pressure is to be expected with the use of an *alpha*-adrenergic blocking agent, an infusion of glucose or Ringers' lactate was usually sufficient to fill the vascular bed and to restore blood pressure within the normal range. Our series shows, however, that the presence of a reduced blood volume can lead to more pronounced hypotension.

The smooth emergence and low incidence of nausea and vomiting were notable. The postoperative tranquillity reduced the requirement for analgesics and enabled nursing personnel to carry out the usual postoperative regimen on a cooperative patient.

Central vagal stimulation was prevented or reduced by preoperative administration of atropine. "Lead pipe rigidity" was rarely seen and could be overcome easily by intravenous injection of small doses of relaxants.

Table 5  
Termination of Anesthesia

Speed of emergence in minutes	1-5	6-10	11-15	>15
Number of cases	55	35	3	2
Per cent of 95 cases	58	37	3	2



Disadvantages of this technique are dependence on the intravenous route and the slow reversibility in the event that a large dose is injected inadvertently for a very short surgical procedure.

#### SUMMARY

A series of 106 patients undergoing surgery with neurolept analgesia is reviewed. A fixed mixture of droperidol and fentanyl (Innovar) was used to produce a state of vegetative protection and freedom from pain. The compound has a high analgesic potency with a relatively short respiratory depressant effect. The circulatory system showed remarkable stability. The postoperative course was characterized by a smooth emergence and low incidence of nausea and vomiting. ☐

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800 N.E. 13th Street, Oklahoma City, Oklahoma

#### Open Letter

(Continued from page 163)

tee than some other good man. He is a good speaker, would being a trustee make him better? If osteopaths are loyal citizens they should be given the right to prove it. I have seen the time I would gladly have given one of them first claim to a foxhole on Iwo Jima.

The profession must be united in its efforts. These efforts cost money. If our trustees and delegates feel the need of increased dues, and if they are alert as to their usage then I concur. We have long sought and fought not to separate the services of medicine from the payments for medicine. As of now the payments are not within our province. If we have any hopes of regaining our previous prerogatives and privileges we dare never lose sight of basic reason for being physicians: Good medical service, available to all. This should be our battle cry!

Sincerely,

JOE L. DUER, M.D. ☐

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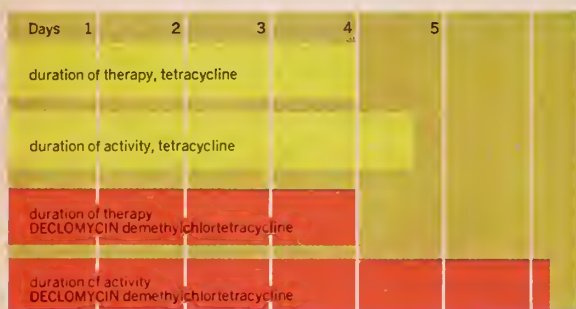


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## produces 1-2 "extra" days' activity



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*Effective* in a wide range of everyday infections—respiratory, urinary tract and others—in the young and aged—the acutely or chronically ill—when the offending organisms are tetracycline-sensitive.

*Contraindication*—History of hypersensitivity to demethylchlortetracycline.

*Warning*—In renal impairment, usual doses may lead to excessive systemic accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort.

*Precautions and Side Effects*—Overgrowth of nonsusceptible organisms may occur. Constant observation is essen-

tial. If new infections appear, appropriate measures should be taken. Use of demethylchlortetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect occurs mostly during long-term use but has also been observed in short treatment courses. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment. Side reactions include glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis and dermatitis. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Anaphylactoid reactions have been reported.

*Average Adult Daily Dosage:* 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products.

*Capsules:* 150 mg; *Tablets:* film coated, 300 mg, 150 mg, and 75 mg of demethylchlortetracycline HCl.





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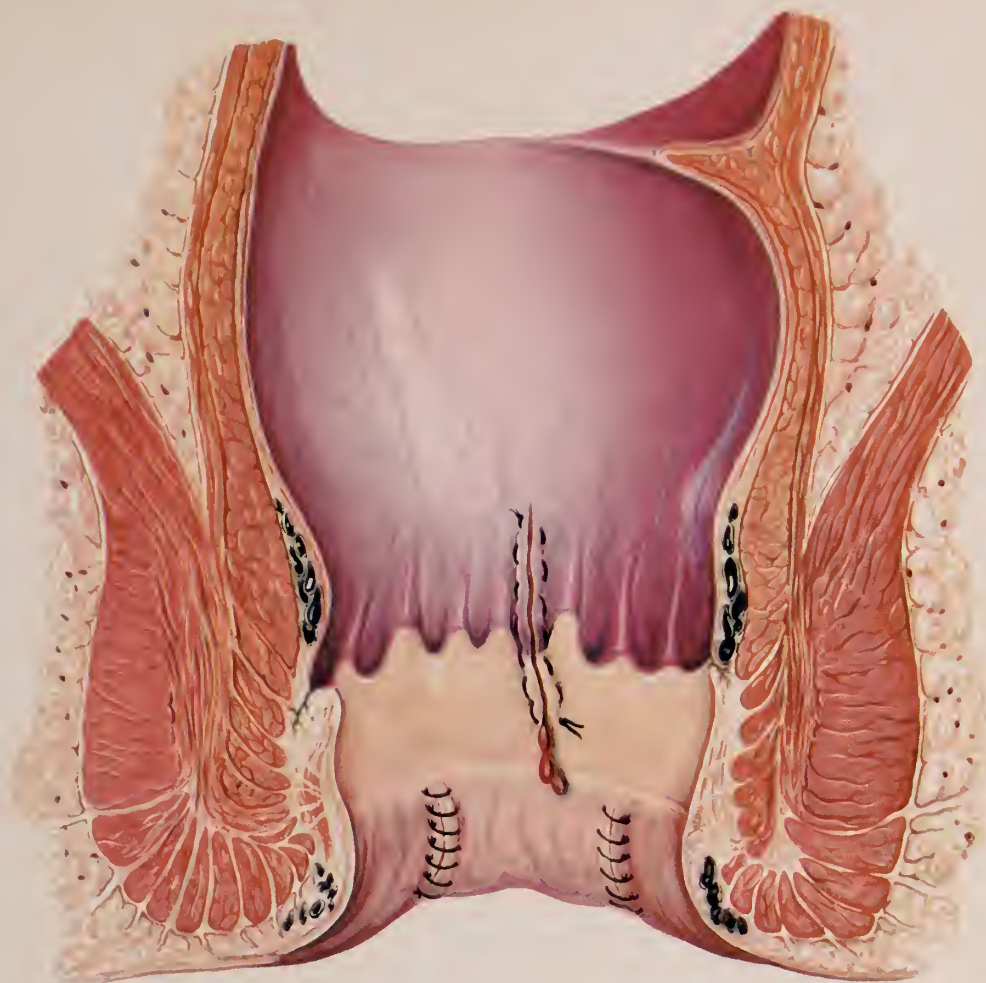
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One rounded teaspoonful of Metamucil powder in a glass of cool liquid, or one packet of Instant Mix Metamucil in a glass of water. An additional glass of liquid is helpful.

Metamucil powder contains equal amounts of refined, purified psyllium and dextrose furnishing 14 calories and a negligible amount of sodium in each dose; available in containers of 4, 8 and 16 ounces.

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at the site of infection  
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In the treatment of patients with bacterial infections susceptible to erythromycin, Ilosone has compiled an excellent therapeutic record. Since it exerts its greatest activity against gram-positive organisms, it is particularly useful in common respiratory and soft-tissue bacterial infections. Ilosone kills—not merely inhibits—streptococci, pneumococci, and more strains of

staphylococci than any other macrolide antibiotic. This bactericidal action, coupled with the high antibacterial levels attained, makes Ilosone especially valuable in patients with low host resistance, such as infants, debilitated individuals, and diabetics.

Ilosone has shown no cross-resistance with penicillin and may be effective against organisms that have become resistant to that agent. Despite its high antibacterial activity, Ilosone has demonstrated a low incidence of side reactions. Blood dyscrasias, ototoxicity, and tooth staining have not been observed. Infrequent cases of drug idiosyncrasy, manifested by a cholestatic jaundice, have occurred, but there have been no known definite residual effects.

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Erythromycin Estolate



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**Description:** Ilosone is the most active form of oral erythromycin that has been developed. Because it is stable in acid, well absorbed, and excreted in lesser amounts in the bile, it provides faster, higher, and longer-lasting levels of antibacterial activity (ABA) in the serum, even when taken with food, than do comparable doses of erythromycin.

**Indications:** Ilosone is indicated in infections caused by microorganisms sensitive to its action (especially staphylococci, hemolytic streptococci, and pneumococci). The drug is therefore useful in a high proportion of bacterial diseases encountered in clinical practice and particularly in the treatment of bacterial infections of the upper and lower respiratory tract and soft tissues.

In the treatment of acute bacterial pharyngitis and tonsillitis, this antibiotic has promptly eradicated the bacteria (streptococci) and has produced a parallel prompt clinical improvement. There have been no group A beta-hemolytic streptococci resistant to this preparation. In beta-hemolytic streptococcus infections, treatment should be maintained for ten days to prevent the development of rheumatic fever or glomerulonephritis.

Erythromycin estolate has proved to be very effective in pneumococcus pneumonia and in acute bronchitis with pneumococci on culture. Bronchopneumonia and otitis media in children have responded well to its use.

The antibiotic has been used very successfully in staphylococcus infections. Good therapeutic results have been obtained in soft-tissue infections, abscesses, cellulitis, carbuncles, wound infections, and furunculosis.

In serious staphylococcus infections, erythromycin preparations should be used only in combination therapy with other antimicrobial agents. As is the case with any treatment regimen used in these severe conditions, surgical procedures should be performed when indicated, and large dosages of the antimicrobial agents should be employed. In this fashion, Ilosone has been effective in staphylococcus pneumonia, osteomyelitis, septicemia, empyema, and meningitis.

Multiple 500-mg. doses of the drug have been useful in gonorrhea and syphilis. Since penicillin is the drug of choice for the treatment of syphilis and gonorrhea, erythromycin estolate should be employed for these infections only in patients with a history of penicillin allergy. Also, other infections due to susceptible bacteria in patients known to be hypersensitive to penicillin or other antibiotics may be considered for treatment with Ilosone. **Contraindications:** Ilosone is contraindicated in patients with a known history of sensitivity to this drug and in those with pre-existing liver disease or dysfunction.

**Side-Effects:** Data obtained from seven years' use of propionyl erythromycin ester and erythromycin estolate (Ilosone) indicate that hepatic dysfunction with or without clinical jaundice may occur during or following courses of therapy with the drug.

Changes in liver function tests in such cases have been indicative of intrahepatic cholestasis. The symptoms appear to be the result of a form of sensitization. The initial symptoms have appeared in some cases after a few days of treatment but generally have followed one or two weeks of continuous therapy or several courses of the drug. Symptoms reappear promptly if the drug is readministered to sensitive patients, usually within forty-eight hours. Eosinophilia was noted in peripheral blood counts. The findings readily subsided without apparent residual effects when treatment was discontinued. Recovery was delayed in one reported instance. The physician indicated in this case that either drug-induced jaundice or viral hepatitis may have been responsible for the findings.

In one clinical study involving ninety-three patients treated with the antibiotic, three cases of jaundice were observed and an additional eleven cases developed some changes in liver function tests. Three of the patients had abnormal liver function tests a second time on readministration of the drug.

Even though it is assumed that not all cases of jaundice have been reported, it seems clear that the number is small compared with the amount of drug that has been used. Reported cases have included persons in whom there had been administered other drugs known to be associated at times with hepatic side-effects and cases in which the presence of viral hepatitis or other disease may have been responsible for the findings. In some of the cases, associated gastro-intestinal symptoms simulated the colic of biliary tract disease. In other instances, clinical symptoms and results of liver function tests resembled findings in extrahepatic obstructive jaundice. It appears that the occurrence of jaundice after administration of Ilosone is infrequent, but further investigations are being made to estimate its incidence more accurately.

In those cases mentioned above in which jaundice appeared to

be definitely related to use of the drug, laboratory findings were characterized by increased direct-reacting bilirubin, elevated alkaline phosphatase levels, negative or weakly positive cephalofluorescent flocculation and thymol turbidity tests, elevated serum glutamic oxalacetic transaminase levels, peripheral eosinophilia, and normal cholecystograms.

Individual idiosyncrasy seems evident since jaundice has not been reported in other patients taking prolonged courses of the medication. Patients with chronic infection have been given 1 to 2 Gm. of the drug daily for periods of two to six months, and patients with rheumatic fever have taken prophylactic doses of 0.5 Gm. daily for two years without difficulty. In one group of 144 patients who received the drug daily for two years, no jaundice was noted. It was of interest that members of six of the patients' families, who were not taking the drug, had episodes of jaundice during the study period.

Transaminase and serum alkaline phosphatase levels were determined in a group of fifty-four adults and children who took 250 mg. of Ilosone daily for an average of sixteen months as rheumatic fever prophylaxis. The results were compared with those of a similar group of forty-four patients who received penicillin. There were no cases of jaundice in either group. Elevation of SGPT and serum alkaline phosphatase levels during the course of treatment was observed in one patient treated with Ilosone and in two patients treated with penicillin. Seven other patients in the group receiving Ilosone and four others in the penicillin group showed elevations in one of the tests at some time during administration of the drugs.

Very satisfactory therapeutic results, without toxicity, were reported in 102 pediatric patients who received short-term (ten-day) courses of Ilosone in the treatment of streptococcus infections. Results of liver function tests in these patients were comparable to those in a similar control group who had received penicillin.

Gastro-intestinal disturbances not associated with hepatic effects are observed in a small proportion of individuals as a result of a local stimulating effect of the medication on the alimentary tract; however, the normal intestinal gram-negative bacterial flora is not appreciably altered by erythromycin drugs.

Although allergic manifestations are uncommon with the use of erythromycin, there have been occasional reports of urticaria, skin eruptions, and, on rare occasions, anaphylaxis.

**Administration and Dosage:** Ilosone is administered orally.

Ilosone Pulvules®

Ilosone Chewable Tablets

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Ilosone, 125, for Oral Suspension

For infants and for children under twenty-five pounds of body weight, the usual dosage is 5 mg. per pound every six hours; for children twenty-five to fifty pounds, 125 mg. every six hours. (Tablets Ilosone Chewable should be chewed or crushed and swallowed with water.)

For adults and for children over fifty pounds, the usual dosage of Ilosone is 250 mg. every six hours.

For severe infections, these dosages may be doubled.

When larger doses are indicated, parenteral erythromycin therapy should be considered.

In the treatment of syphilis, the recommended total dosage is 20 to 30 Gm. given in divided doses for a period of ten to fifteen days. Close follow-up of the patient is necessary since erythromycin drugs have not had adequate evaluation in all stages of syphilis. Examinations of spinal fluid are recommended as part of the follow-up therapy.

For gonorrhea, 500 mg. four times a day for four days are recommended. In the treatment of gonorrhea, patients with suspected lesion of syphilis should have a dark-field examination before receiving antibiotics, and monthly serologic tests should be made for a period of three months.

**How Supplied:** Pulvules Ilosone, Capsules, N.F., 125 and 250 mg. (equivalent to base), in bottles of 24 and 100.

Tablets Ilosone Chewable, N.F., 125 mg. (equivalent to base) in bottles of 50.

Ilosone Drops, 5 mg. (equivalent to base) per drop, in 10-cc. size packages, with dropper calibrated at 25 and 50 mg.

Ilosone, 125, for Oral Suspension, N.F., 125 mg. (equivalent to base) per 5-cc. teaspoonful, in 60 and 150-cc.-size packages.

**References:** 1. Griffith, R. S., and Black, H. R.: *Am. J. M. Sc.*, 247:69, 1966. 2. Griffith, R. S., and Black, H. R.: *Antibiotics & Chemother.*, 12:398, 1966. 3. Hirsch, H. A., Pyles, C. V., and Finland, M.: *Am. J. M. Sc.*, 239:198, 1960.

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# Community Psychiatry

## Its Development and Present Status in Oklahoma

### Part I

EDWIN FAIR, M.D.

*Within the past five years there has been an emphasis on providing psychiatric services in the local community. With this changing pattern community or social psychiatry has evolved. As psychiatric services are becoming more widespread this involves medical practitioners in general practice as well as specialists. This paper gives a history of the development of the rapid changes in psychiatry, describes the status of community psychiatry in the State of Oklahoma at the present time.*

IN HIS BOOK, *The Human Mind*, Doctor Karl Menninger writes, "Let us define mental health as the adjustment of human beings to the world and to each other with a maximum of effectiveness and happiness. Not just efficiency, or just contentment or the grace of obeying the rules of the same cheerfully. It is all of these together. It is the ability to maintain an even temper, an alert intelligence, socially considered behavior, and a healthy disposition. This, I think, is a healthy mind."

As one can see by this definition, mental health is more than an absence of mental illness. It is a positive state of mind which makes it possible for human beings to live

together "with a maximum of effectiveness and happiness." In the effort to reach this goal, there is considerable focus on the community. There has been an evolution within psychiatry, especially since World War II, which has resulted in what is called "community psychiatry."

Many experienced psychiatrists have recognized the limitations and restrictions of the individual effort of the psychiatrist to cope with the problems that extend far beyond the limitations of the given individual. In addition, the traditional role of the large psychiatric hospital has been challenged. This isn't saying that there is no longer a need for state hospitals, because they certainly will continue to perform a valuable service in the care of the mentally ill. There cannot be built enough large hospitals to isolate all individuals with emotional problems. It is highly questionable that it is the best treatment method to isolate the person who suffers and separate him from the people most meaningful to him as he is required to make a new adjustment during this trying period of his life.

Today, there is a shift toward treating the individual in his own community instead of relying completely on large public mental hospitals. In addition, there has been a change in thinking about mental illness. The tradition of the medical credo is found to apply in psychiatry as well as other disciplines in medicine. This credo applies particularly to community psychiatry as it has in public health. Disease should be prevented if possible. If prevention is not possible,

then the disability should be reduced to the greatest extent. With these concepts in mental health services, new methods are developing. Community psychiatry is emerging.

Community psychiatry is not easy to define. In the psychiatric glossary it is defined as "a broad and relatively recent term referring to the use of all available forces, resources and techniques that facilitate the treatment of the psychiatric patient in his own community."

We have not yet developed a clear understanding of community psychiatry and its many facets. We do know it is broad in scope. There has been a shift in the role of the psychiatrist. He not only has the responsibility of dealing with the mentally disordered persons within the community, but he also must be concerned with the potential cases. He is involved in primary prevention. This brings about a considerable change in the traditional role of the clinical psychiatrist in the one to one treatment relationship. This relationship will always be an important one in psychiatry, but the community psychiatrist is concerned with larger numbers of the population. He is concerned with people of all ages and classes who suffer from disorders of all types. His focus extends beyond treatment to education of the public and the prevention of emotional disorders. He doesn't wait for the patient to come to him, he has a responsibility for those who do not come. A program of community psychiatry seeks to lower the rate of new cases of mental illness by reducing harmful influences in the home and community and by helping the individual develop capacities to adjust to the realities and difficulties in life. In the latter case, he deals with those who are not ill.

In community psychiatry we believe that mental disorder is often aggravated or caused by poor adjustment to the situations arising from one's environment. Hence, there is need for a healthy equilibrium between the individual and his environment. Since the environment is made up of a social network that involves many people, community psychiatry becomes social psychiatry interested not only in the individual but the various groups in society which comprise his environment.

This requires the cooperative effort of many people. The psychiatric team is usually composed of the psychiatrist, clinical psychologist, and psychiatric social worker. It may also utilize the services of the family physician, pediatrician, public health nurse, a minister trained in counseling and a school counselor. This is a new area of endeavor and there are no clear-cut models to follow. We need to understand the community better. There is need for community planning by diverse groups within the community. Community models have been developed in various fields, such as social work, public health, child and public welfare, and adult education. While they are helpful, none is completely adequate for the needs of community psychiatry.

In fulfilling the goal of prevention where possible, minimizing if not possible to prevent, and reducing disability, there are many areas of effort open in community psychiatry. While the center of attention is the individual, one is concerned with the home and family, the church, the school, the place of employment and social influences. In this effort, educators, law enforcement agencies, attorneys, judges, social welfare groups, such as child welfare and public welfare and vocational rehabilitation, are utilized with others previously mentioned.

There is a wide spectrum of services in community psychiatry. These can be classified in five categories: Outpatient services, hospital services, rehabilitation services, consultative services, and information-education services. Most of these services are provided by the team previously described. Experience has shown the community psychiatric clinic is chronically understaffed, hence the staff must determine where its time can best be spent. Usually hospital care and long term treatment are not undertaken where there is a limited staff. In this instance, information-education services with aim toward prevention, consultation and early diagnosis with short term treatment will be the main services. A good working relationship with the schools, family physician, courts, law enforcement groups and the clergy is valuable.

As we gain knowledge and experience, it is evident the needs are great and there is a shortage of manpower. The challenge is



great and the results are rewarding. We in medicine must rise to the occasion.

A great amount of legislation has been enacted in mental health in recent years and much of it is pertinent to community psychiatry. At the national level in 1955, the Mental Studies Act established the Joint Commission on Mental Illness and Mental Health. Funds were appropriated to support the study undertaken by the Joint Commission, which filed its final report with Congress in March of 1961. This report was called "Action for Mental Health." It was the first survey in our Nation's history that related the problems of mental illness to the various responsibilities of federal, state and local governments.

One of the recommendations called for in the Action for Mental Health is stated as follows: "Community mental health clinics serving both children and adults, operated as outpatient departments of general and mental hospitals, as part of state or regional systems for mental patient care, or as independent agencies, or a main line of defense in reducing the needs of many persons with major mental illness, for prolonged or repeated hospitalization. Therefore, a national mental health program should set as an objective one fully staffed fulltime mental health clinic available to each 50,000 of population. Greater efforts should be made to induce more psychiatrists in private practice to devote a substantial part of their working hours to community clinic services, both as consultants and as therapists."

In 1954, in Detroit, there was held an historical special National Governors Conference on Mental Health. A basic ten point

program was adopted urging an intensification of efforts in the areas of community services, treatment, rehabilitation and after care, as well as research and training.

In Chicago, in November of 1961, another Governors Conference on Mental Health was held. The main recommendation of this conference called for new approaches in mental health founded on a wide range of prevention, early diagnosis and treatment based in the community.

The Governors Conference recommended "the enactment of community mental health services legislation, under which a state provides matching grants to local communities and non-profit groups, to serve as a stimulus in the development of such services in several states and may serve as an example to others."

It is significant that this conference accepted the findings of the Joint Commission as reported in the Action for Mental Health and endorsed the concept that federal, state, and local governments, as well as private voluntary groups, must combine their efforts to achieve these goals. They also stated that it was obvious that substantially greater sums must be appropriated by all levels of government to accomplish the objectives.

In July, 1962, the National Governors Conference passed the following resolution: "Now, therefore, be it resolved by the Governors Conference that each state develop a comprehensive master plan for coping with mental disability and promoting mental health that will mobilize state, local, private and voluntary resources to stimulate greater community initiative and provide a long term basis for meeting this great human responsibility."

In August, 1962, the United States Congress allocated 4.2 million dollars in matching grants to the states for the development of comprehensive mental health services carrying out the major recommendations of the Governors Conference.

While these political developments were going on, there was increasing concern on the part of organized medicine for meeting the needs of the mentally ill. In the Fall of 1962, the American Medical Association held its first National Congress on Mental Illness and Health. The main concern was the ex-

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tent of the problem of mental illness and its prevention. Of the 2,000 people in attendance, approximately half were physicians. Others were psychiatric social workers, psychologists, attorneys, educators, ministers and average citizens interested in mental health. At this meeting they discussed a wide range of topics, from undergraduate education to research. The general view was the task and priorities that would be necessary if programs were to be implemented at the state level. It was suggested that the individual state medical associations hold meetings for the same general considerations. Since that time, at least 25 statewide mental health congresses or conferences have been held. In addition, there have been a significant number of county meetings. There has been a significant increase in the number of county mental health committees, an increase in the number of postgraduate psychiatric seminars primarily for family physicians, as well as an increase in the interest and the participation in them. There has been a significant increase in material available to the state and county medical journals. There has also been participation on the part of physicians in state and regional planning groups as the medical association has accepted the challenge.

On February 5, 1963, in President Kennedy's Message to Congress, he called upon that body to take the lead and shoulder responsibilities for the prevention and treatment of mental subnormality and mental disorder throughout the country. This message actually brushed aside some of the major recommendations of the Joint Commission and focused on a proposal to establish a series of interlocking community services and facilities. It called for establishing coordinating programs of community psychiatry. The President proposed a "bold new approach" to care for the mentally ill designed to use federal resources to stimulate state, federal and private action. The program reflected the belief that many forms of mental illness can be prevented or relieved through community oriented services. In order to provide these services, he proposed the expenditure of 750 million dollars over a number of years for the construction of com-

munity health centers and their initial staffing.

Congress passed the Community Mental Health Centers Act of 1963 (Title II, Public Law 88-164). This act authorized the expenditure of 150 million dollars over a three year period for the construction of centers, starting July 1, 1964, but with no federal funds for initial staffing assistance.

The law provides that in order to be eligible for federal funds, a Comprehensive Community Mental Health Center must be prepared to provide at least five essential elements of mental health services. These are: Inpatient services, outpatient services, partial hospitalization, emergency services on a 24-hour day basis, and consultation and education services to community agencies and professional personnel. In addition, the funds also may be used for five other elements that are suggested. These are: Diagnostic services, rehabilitation services, pre-care and aftercare services in the community, training, research and evaluation.

In the Community Mental Health Centers Act of 1963, a total of 35 million dollars was appropriated for the year 1965. The authorization for 1966 was 50 million dollars, and for 1967, 65 million dollars. The federal government's share for construction can range from one-third to two-thirds of the total cost. In Oklahoma we receive 59.02 per cent.

Under this act, the Community Mental Health Center is not necessarily a new or separate building. It may be a wing added to a general hospital or a clinic, or to another mental health facility in the community. Basically, it is a program of mental health services in the community in one or more facilities under a unified system of care. The purpose is to provide a varied range of coordinated mental health services in the community. Through it the patient will find the care he needs, when he needs it, as close to home as possible. The goal is for the patient to move easily from one type of treatment to another as his needs change. The treatment at any time will be appropriate to the course of his illness. This is designated "continuity of care." It is aimed to represent the most advanced psychiatric thinking and research concerning the care of the mentally ill. It is the key concept of

the Community Mental Health Centers Program.

The act states that the success of the new Community Mental Health Centers Program will depend, in a large measure, on the participation of the community general hospital and special consideration is given, under the law, to programs "which will be part of or closely affiliated with a general hospital."

The act asked each state to develop a State Plan for Community Mental Health Centers. These plans were drafted by a designated state agency. In most states, this agency is the State Mental Health Authority or the state agency responsible for the Hill-Burton Medical Facilities Program. In Oklahoma, our Mental Health Authority is the Oklahoma State Health Department and it was the agency designated to draft the Oklahoma State Plan. The federal act stated that the state plan for centers would be based on a statewide inventory of existing facilities and a survey of the needs. The state plan will delineate areas for purpose of priority and indicate probable center sites. This is the ground work for the new national mental health program. It is emphasized that community effort is the vital part of the process of establishing centers with federal aid. Community leaders, community agencies and voluntary organizations—in fact, all citizens can help bring to their area the modern mental health care. One can see, then, that community cooperation is essential to achieve plans and maintain community services which reflect local needs and the capacities within the community. Under this act, the word "community" for federal aid applies to areas of "not less than 75,000 and not more than 200,000 persons." Several localities may join together to bring the mental health services of the center into their area. Likewise, one can see that there might be several centers in a large metropolitan area.

The state agency determines the order in which the individual project applications receive priority for federal aid. The applications are submitted to the Public Health Service with a priority designation given by the state. Factors in setting priorities include the extent of mental illness and problems related to mental health in a given area and the presence of resources.

Of the federal funds authorized for 1965, allotments to states ranged from \$100,000 in five states, to approximately \$2,700,000 in New York. Funds available to each state are based on population and financial need. Oklahoma's allotment for 1965 was \$500,721, and for 1966 was \$707,253. At this writing the allotment for 1967 has not been determined.

Under the regulations, existing services and facilities will not be duplicated. Instead, service elements which assure coordination with other essential services of the program may apply for aid in necessary construction or expansion of a facility. For example, a general hospital affiliating with a community mental health program may receive from one-third to two-thirds of the cost of adding a new wing, depending on the federal percentage established for the state in which it is located, 59.02 per cent for Oklahoma.

Each Community Mental Health Center will have its own characteristics, reflecting the community's special needs and resources. The essential service elements need not be under a single roof. Services may be adjacent to each other, or in units conveniently located in the community. The centers will vary in size. Some will be free standing centers—others will be small units added to bridge gaps in existing facilities and services.

The financing of the center program is the responsibility of the state or local community. However, in 1965, a Community Mental Health Centers Act was also passed to provide money for staffing. To receive federal aid for construction, adequate staffing and maintenance of the center must be assured for a minimum of two years. While the services are to be open to all citizens, some of the cost may be covered by individual fees and health insurance coverage. State and community support of mental health services indicate that new patterns of financing are developing in response to the need for alternatives to custodial care.

There can be a variety of sponsors of the Community Mental Health Centers. There can be a combination of public and/or private agencies which can best meet the needs and finance the services in each area. Some programs will be operated under joint auspices, public and private; some may be a



county service; and some may be run jointly on a medical school and city hospital basis. The sponsorship assumes responsibility for the center's program.

The five basics for federal aid require the center to provide the essential services as listed previously. Services must be coordinated and accessible. Care must have continuity, and the plan must be compatible with the state plan.

The American Medical Association and its Council on Mental Health called mental illness America's most pressing and complex health problem. The association directed the council to develop and implement a realistic and positive program which would stress the importance of every physician, regardless of his specialty or type of practice, in improving our knowledge about mental health and resources to meet the need.

The council has been active at the national level and has cooperated at the state level. In November, 1964, the second American Medical Association National Congress on Mental Illness and Health was held in Chicago. The theme of the Congress was "Community Mental Health Services and Resources—Mobilization and Orientation." At this meeting, the principal focus was on the physician's role in the development and operation of community mental health services.

At this congress, considerable attention was given toward finding and diagnosing early cases of illness before the patient became incapacitated, and developing methods of treatment. The role of all physicians was stressed. It was pointed out that physicians must unite in cooperative effort with agencies and institutions concerned with improving the conditions of living in any given community.

Considerable discussion emphasized the importance of integration and coordination of existing mental health resources in each community in order to fully utilize them all. It was stressed that organizational and administrative problems relative to community mental health had to be solved. The role of the psychiatrist and of the family doctor or primary physician was discussed. It was emphasized that all had an important part in meeting the needs of the one who suffers

with emotional problems. Once again, stress was laid upon the importance of the state and county medical associations working toward better mental health services at the community level.

President Johnson, in his 1965 Health Message to Congress, indicated the mental health problems are a continued concern to the administration. He stated that "Mental facilities alone cannot assure services, few communities have the funds to support adequate programs particularly during the first years. Communities with the greatest needs hesitate to build centers without being able to identify the source of operating funds. Most of the people in need are children, the aged or patients with low incomes. I therefore recommend legislation to authorize a five-year program of grants for the initial cost of personnel to man Community Mental Health Centers which offer comprehensive services."

In July, 1965, Congress passed the bill providing federal grants for the initial staffing of Community Mental Health Centers. (This is the Mental Retardation Facilities and Community Mental Health Centers Construction Act Amendments of 1965, H.R. 2985.) Compared to the House Bill, the final law extended the authorization for the appropriations to the fiscal year ending June 30, 1972. Centers can receive federal aid for 51 months, provided the federal staffing grants begin in fiscal years 1966, 1967, and 1968.

The Secretary of Health, Education and Welfare is authorized to make grants not exceeding 75 per cent of eligible staff costs in the first 15 months of operation, 60 per cent in the first subsequent year, 45 per cent in the second, and 30 per cent in the third and final subsequent year. Therefore, with the Community Mental Health Centers Act of 1963, we have an act that provides up to 66 $\frac{2}{3}$  per cent of the building cost for the construction of Comprehensive Mental Health Centers and, with the companion act of 1965, federal monies are available to pay the staff salaries, beginning with 75 per cent of the cost initially, reducing to 30 per cent. The latter bill also authorized the secretary to continue the grants at 30 per cent for an additional three years for centers that have received an initial grant in any of the fiscal years named. The question arises—Where



are we going to get the manpower to staff these clinics?

It is expected that the supply of mental health professionals and related workers will more than double in the next decade. Efforts are being made to train practicing physicians in psychiatric principles so they can handle many of the less serious mental problems of their patients. One can see that today much of the responsibility for the care and treatment of the mentally ill is beginning to shift from the states through their public mental hospital systems, to the local communities, to the general hospitals, outpatient clinics and the physicians' offices.

We come now to the last of the federal programs concerned with mental health, the one most recently enacted. This is the Medicare Bill (Social Security Amendments of 1965, H.R. 6675). President Johnson signed this bill July 30, 1965.

At the Conference of the Surgeon General with the State and Territorial Health Officers and Mental Health Authorities in January, 1966, the following services under the Medicare Law were explained. Under Title XVIII of this law, it is possible to pay for services to a patient in an institution.

This is available to anyone over 65, whether they are under Social Security or not. This covers virtually the entire population over 65 while in an institution. Also under Title XVIII, physicians' services, including psychiatrists', are covered. These include outpatient services, either in the home or office, up to \$250 per year. This is for those over 65 who pay \$3 per month.

Under Tile XIX of the Medicare Law, people of any age who are indigent are covered, regardless of diagnosis. Psychiatric illnesses are included. This law removes the age barrier. Since they must be indigent, a cooperative effort between health and welfare groups is necessary. Some do not need to be in the hospital. There must be an agreement in writing as to patient care between the health and welfare groups. There must be continuity of care between the hospital and outpatient care, and an agreement by the hospital that the public agency has availability to the patients' records. "Reasonable cost" will be met. ☐

*Part II of this article will appear in the May issue of The Journal.*

P.O. Box 951, Ponca City, Oklahoma

## **ANNUAL NURSES' CONFERENCE**

on

### **OBSTETRIC, GYNECOLOGIC AND NEONATAL NURSING**

**April 28th, 1967**

**Skirvin Hotel**

**Oklahoma City, Oklahoma**

Sponsored by the Oklahoma Section of District VII of the American College of Obstetricians and Gynecologists, this meeting is planned for all interested obstetric and gynecologic nurses. Physicians are urged to encourage all office and hospital nurses to attend the one-day conference. Program information is available from Earl M. Bricker, Jr., M.D., Suite 208, 1211 North Shartel, Oklahoma City, Oklahoma.

# Treatment of Emotional Problems in Childhood

## Part I

POVL W. TOUSSIENG, M.D.  
MARSHALL D. SCHECHTER, M.D.

*An attempt at clearer definition and  
assessment of many of the main  
treatment modalities in contemporary  
child psychiatric practice.*

### INTRODUCTION

A VAST ARRAY of diagnostic and therapeutic approaches for disturbed children (and their families) have been described in the child psychiatric literature, and new methods of treatment are continually being devised and tested in clinics across the country. In this paper, we will try to deal with the problem of choosing the appropriate treatment for a child and his family. It is not possible to cover all treatment modalities. Therefore, we will present the approaches used most widely today: Individual psychotherapy, casework with the parents, family therapy, group therapy, residential treatment, pharmacotherapy and a few others. Even with this limited choice, only a fraction of all the factors involved can be discussed.

We need to stress that in this paper we largely express our own views of these various treatment methods, which in many ways still are the subject of controversy. We believe that most of the disagreements as to choice of treatment for children are spurious and merely reflect the current semantic confusion, since the same psychiatric terms are used in widely divergent ways by different professional people or different clinics. Our diagnostic labels are a good example. Two child psychiatrists, for example, are unlikely to define the term, "childhood psychosis," exactly alike. Similarly, two professional articles both dealing with "individual psychotherapy" or with any of the other treatment modalities, often by the same name refer to very different approaches. In one professional report, the term, "psychotherapy," was used to refer to a professional person's regular biweekly visits with a child to a public park playground and an ice cream parlor. Other professional people, who would agree that the approach just mentioned would not fall within their definition of "psychotherapy," might still be in basic disagreement as to what each of them understood by "psychotherapy." The fact that a professional person meets regularly with a group does not, in itself, justify use of the term "group therapy," but it has never been adequately defined exactly what and how the group leader has to act to justify calling what he is doing "group therapy."

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Sometimes our problems in communicating with each other lie in the number of factors we include or fail to include in our concepts. Most articles on pharmacotherapy, for example, describe in detail the research design (*i.e.*, a double-blind study, use of placebos, the dosages given, etc.), but few, if any, describe what the patients (and the personnel) were told about the drug, what the patient's understanding was of being given a drug, whether inadvertently other help was given to the patients (*e.g.* by having to spend more time with them to explain the drug or whether staff morale changed since use of the drug, etc.). Yet, such factors, in themselves, are known also to influence the symptoms and illnesses of many patients and play a significant role in what is termed "the placebo effect" in the use of any drug. This may explain the seemingly different results obtained with the same drug in different settings.

It is important, therefore, to define exactly what is meant by certain terms. Furthermore, as we shall see, there are many factors, directly related and unrelated to a child and his family, which limit or influence our freedom of choice when we want to determine how best to help the child and/or the family.

#### WHAT IS "TREATMENT?"

In order to make sure that the reader understands what is meant by "treatment" here, it will be necessary to define this concept. "Treatment," as used in this paper, is any device or measure, physical, chemical, or psychological, which is used to intervene in a planned, specific way on the basis of thorough psychological understanding of the patient, his needs and the nature of his difficulties and which will make it possible for the patient to function better or again to function in such a way that he is free to use his capacities for growth and maturation. This definition may seem very broad and overly inclusive, but it also sets quite definite limits for what can be, and what cannot be, included as treatment. Teaching someone to paint is not treatment, but teaching a patient to paint in such a way that he again relates to people or finds a channel to

express deeply repressed conflicts and work them through *is* treatment. Teaching a child to read is not treatment, but teaching a brain-damaged child to read by special methods based on diagnostic understanding of the nature of the child's organic difficulty *is* treatment. Meeting with a group of children to plan a party is not treatment. But when the group, even at the same time, is used to strengthen and encourage unduly fearful group members or to help the children with their reality testing, with their controls or in order to meet other of their needs, the session becomes group therapy. Meeting with a child regularly does not mean that psychotherapy is being done. But when the adult structures his behavior and response to the child in a specific, purposeful way based on an understanding of the child's psychodynamics, with the goal of freeing the child from inner obstacles to further growth and maturation, this *can* be called psychotherapy. Talking to parents of a child in treatment once a week does not make it casework. But it is casework when the interviews are based on knowledge of family-child interactions and are focused on helping the parents in a planned, purposeful and specific way to allow and support the child's growth and to promote the growth of the parents' own capacity for empathy and warmth in their interaction with the child.

The technique of treatment must take into consideration where the block to further growth and maturation is. This block cannot be identified merely by looking at the child as he is in the present, but must also take into consideration how the problems developed. As Emmy Sylvester<sup>17</sup> has pointed out: "Problems of psychotherapeutic technique are only secondarily determined by the symptomatology at the onset of treatment. The patient's experiences during the earliest stages of psychophysiological development determine the prognosis and treatability of later emotional illness. It is the early history of the patient from which, over and above the dynamic understanding of the illness, the most valuable clues for correct technical handling in psychotherapy are to be derived." In child psychiatric clinics, more and more children are being seen whose symptomatology is not particularly dramatic, but who turn out to be very "hard to reach." In the

histories can be found serious disruptions or disturbances between these children and their mothers, which have left the children with a basic "anaclitic" type of depression and/or with difficulties in establishing meaningful and useful relationships with other people. Much disappointment in treatment can be avoided if these disturbances are identified properly on the basis of a suspicion aroused by the children's early histories. The more severe these disturbances are and the earlier in the child's life traumatic situations occurred, the more varied, different and difficult the therapeutic approach will be. Erikson<sup>6</sup> has defined a number of stages in children's psychosexual development, each with a dominant body zone ("organ zone") and a dominant mode of use of this organ zone. If one developmental stage has not been passed satisfactorily, fixation may occur to the zone or to the mode, and disturbances will occur in the resolution of all subsequent psychosexual stages. If the disturbance occurs in the very first stage of life, the deviation in psychosexual development becomes so all pervasive that we as yet have only a few experimental treatment modalities which might be of value.<sup>15</sup> At the present state of our knowledge we sometimes cannot find any way to help these children.

Returning to situations where we often can be of help, we get assistance in our planning the treatment of a child from Edith Buxbaum.<sup>3</sup> She states: "The strategy of therapy consists of first finding the weak spot and then giving help where help is most needed. By and large there are four main areas of disturbance in development: (1) in physiological reactions, (2) in object relationships, (3) in functioning (body control and activities), (4) in (too strong or too weak) ego defenses. The principal variations in techniques of therapy are contingent upon the presence or absence of one or the other of these factors." These four anchor points are basic ingredients in all treatment and are constantly implied as we now turn to a discussion of individual modalities of treatment. While Edith Buxbaum and others quoted so far primarily are talking about individual psychotherapy, or even child analysis, the same criteria are just as

useful in planning and offering other treatment modalities for a child.

#### INDIVIDUAL PSYCHOTHERAPY

Individual psychotherapy varies in techniques and overall configuration with the children's age, their developmental level and the nature and degree of their illnesses. With younger children the communication between therapist and child will be primarily through play, whereas psychotherapy will become more and more exclusively verbal as the child in therapy reaches puberty and enters adolescence. However, even with teenagers verbal therapy still has some characteristics quite different from psychotherapy with adults, in that the patients still are in the midst of very active, ongoing psychosexual development in addition to whatever else ails them. Most children are by and large not aware of their suffering (the formation of symptoms protects the child against depression and anxiety) and do not come for treatment except when the family, the school, the community or others have become concerned enough about the child to cause a referral. However, there are increasing numbers of adolescents (*e.g.* with "weltschmerz") who are self-referred and it does happen that younger children too request psychiatric help when they become aware of such services being available.

Riding on the coattails of psychoanalysis, psychotherapy has acquired considerable prestige as the treatment tool of choice in our clinics and in private practice, (see *e.g.* Jules Coleman).<sup>4</sup> It is indeed a valuable tool because its flexibility makes it useful in meeting the needs of a great variety of children. How widely applicable it can be is not known by many colleagues. It is particularly not known widely enough that retarded children with emotional conflicts can also make good use of psychotherapy. The mentally retarded are frequently more prone to anxieties and fears since they do not have the same ability to understand the nuances of internal and external changes. Their thinking is limited and concrete. They cannot understand abstractions or complexities and so potential danger lurks anywhere and everywhere. What was a fear in early life, remains a fear. They are not able to be so



"influenced by logic or by developing new concepts to help correct such early misconceptions."<sup>14</sup> Many retarded children now are being helped in major ways by having an opportunity to come face to face with their handicaps in psychotherapeutic interviews; to acknowledge and mourn the fact that they are limited in their capacities and then to emerge with a greater feeling of self-worth.

Psychotherapy is the treatment of choice in all adjustment reactions of childhood and adolescence, and in most neurotic\* childhood disturbances ranging from bedwetting through reading problems to school phobias, conversion hysterias, obsessional neuroses, psychophysilogic disturbances, etc. Children with these disturbances rarely require simultaneous help through other treatment modalities, except that it usually is wise and necessary to have the parents participate in the treatment through simultaneous casework.

If it is available, child analysis is the treatment of choice in all of the more severe neurotic problems. The indications for child analysis are well spelled out in Anna Freud's<sup>10</sup> lucid discussion of this and related issues.

In recent years psychotherapy also has been used increasingly with psychotic children. This requires certain modifications of the psychotherapeutic technique. Kaufman<sup>12</sup> and co-workers have made an attempt to gear the psychotherapeutic approach specifically to the degree of illness in schizophrenic children. They classify these children in the order of decreasing severity of overt symptomatology, but also they try to assess the amount of available ego strength, the degree to which the ego has developed at all, the presence or absence of object relationships, etc. At the Hampstead Child-Therapy Clinic in England, Anna Freud<sup>9</sup> and her coworkers have developed a "diagnostic profile" which may be useful to determine the exact ways in which a child changes during treatment, and also could be valuable in determining an appropriate therapeutic technique.

\*"We have in psychoneuroses, first a defense of the ego against an instinct, then a conflict between the instinct striving for discharge and the defensive forces of the ego, then a state of damming up, and finally the neurotic symptoms which are distorted discharges as a consequence of the state of damming up—a compromise between the opposing forces. The symptom is the only step in this development that becomes manifest, the conflict, its history, and the significance of the symptoms are unconscious."<sup>17</sup>

While favorable reports are now available on the psychotherapeutic treatment of more severely disturbed children; that is, of children with severe character problems and of schizophrenic and autistic children, it has also become apparent that psychotherapy alone is not sufficient to meet these children's needs. Many of them require special school settings, special remedial tutoring and special supervision; likewise intensive contact is required with the parents and other adults who work with the children or have the task of protecting the children from their own impulses. If a clinic or a therapist has a day school available for these severely disturbed children with adequately trained teachers, outpatient treatment of these children may very well succeed. However, with severely disturbed teenagers and older school age children, particularly from the more deprived socioeconomic classes, the results of outpatient treatment are often less satisfactory than inpatient treatment. The use of group therapy as an adjunct to individual psychotherapy or in place of it, has shown promise with children with character disorders and childhood schizophrenia, while

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various authors are beginning to report some progress in the family treatment of families with a schizophrenic child or children.

#### VARIOUS REMEDIAL PROCEDURES

Careful examination of children of all ages is apt to uncover various physical and neurological difficulties which may need attention. The difficulties include: (1) conspicuous cosmetic flaws; (2) varying degrees of neurological handicaps, such as visual motor difficulties, incoordination, incomplete dominance, aphasia, seizure states, etc.; (3) speech difficulties of organic, neurological or emotional origin; (4) difficulties in vision and hearing, etc. Many of these physical and neurological difficulties contribute to or aggravate the children's emotional disturbances. A successful outcome of treatment of these children frequently depends on whether they are also given remedial or corrective help with their physical and neurological handicaps. This may involve cosmetic surgery, treatment for acne, remedial reading, instruction in number concepts, reading or other skills through special methods, speech therapy, glasses, hearing aids, drugs, etc. A thorough physical and neurological examination is essential *e.g.* so that hypoglycemic attacks are not mistaken for epilepsy. Abnormalities in electroencephalographic tracings are at times causally related to temporal lobe seizures, hyperkinesis, enuresis, migraine, etc.

Careful thought must be given to timing the remedial measures. Until a child is emotionally receptive or has acquired a greater attention span, remedial help often is futile, and, if attempted anyway, will discourage the children and even condition them against such help. It is, therefore, often desirable to wait until the child in psychotherapy or through other forms of treatment has settled down enough to be able to use the other treatment modalities offered him.

#### CASEWORK WITH THE CHILD OR THE PARENTS

The profession of psychiatric social work has developed a treatment approach which

is often confused with psychotherapy, but in the truest sense of the word it is a treatment modality in its own right. The caseworker has learned to work with people through many techniques which are therapeutic, but which are applied in a special way, using the carefully respected limits of a certain focus. A caseworker can work with a child around definite realities such as the adjustment to a move from a children's home to an adoptive family, or a pregnancy and delivery at the age of 13, difficulties in accepting certain real and traumatic factors in the child's life, etc. The focus in all these instances is on the task at hand and everything the child brings in is viewed and understood in terms of this task. There is, therefore, more emphasis on the child's strengths (on the child's ego) than on uncovering unconscious material and bringing about a more basic change in the child's personality structure. Emphasis is on helping the child use his natural abilities to solve immediate social problems in a different way, in other words, to develop better techniques of living. In the process he learns much about himself (cf. Torgerson<sup>18</sup>).

Similarly, in working with the parents of a disturbed child, the caseworker keeps the focus on the parents' interaction with the child and does not allow them to delve into their own pasts and into themselves in order to make them more comfortable with themselves as people. The focus is on the ways in which the parents can understand and empathize with the child, how they can interact better with him, accept and execute their role as parents more consistently and effectively, etc. In this process the parents learn much about themselves but if they recognize neurotic symptoms in themselves and want help they should be referred for individual therapy. It is rare, indeed, that a child alone can carry the full burden of treatment, and almost always it is an advantage to involve the parents in casework when the child begins individual therapy, because the parents, while seeking change for the child, nevertheless are apt to have many apprehensions about the changes when they begin to occur. Furthermore, if they have no way of following what is going on in the therapy with the child or what is being attempted there, they are liable to over-react



to the child's inevitable pains of change during the process—or to feel left out. In either case they may prematurely—and often in anger—terminate the child's therapy abruptly.

Treating a child without involving the parents can be attempted only if the parents are mature, empathic people, or if it is clear from the start that the child's disturbance does not interlock with the parents' disturbances. Whenever parents seem unduly anxious, or whenever they in some way appear to participate in the child's disturbance, or if they harbor intense, though sometimes unconscious anger towards the child, casework with the parents is not only indicated, but may make the difference between failure and success.

#### FAMILY THERAPY

As casework demonstrated and uncovered to what degree parents can be agents or participants in their children's difficulties, it was inevitable that interest eventually would center more and more on the family as a whole. While the enthusiasm surrounding the birth of family therapy (treating the entire family together rather than individual family members) continues to grow, it is important to recognize that family therapy still is poorly defined as to indications, limitations, techniques, goals, etc.—and that no useful criteria have been devised as yet to begin to assess the results (a problem which has not been well solved in individual psychotherapy either even after decades of universal use). It is also important to understand that family therapy is based on a philosophy which is radically different from the philosophy underlying individual treatment. Some family therapists even assume that all behavior of all family members, even extreme behavior such as hallucinations or overt attempts to kill each other, originate exclusively in the dynamic tensions between family members and in no way reflect these people's intra-psychic conflicts. Other family therapists, like Ackerman,<sup>1</sup> however, stress the importance both of internal conflicts (requiring individual psychotherapy). Another problem is that there as yet is no adequate definition of what properly constitutes "the family." Some family therapists

work with the parents and all the children in an office, whereas others go to the families' homes and deal not only with this narrower family, but with other relatives, neighbors, friends who drop in, etc.

Family therapy as described in the literature does not shorten the average length of treatment and makes inordinate demands on the therapist, *e.g.* as he tries to avoid taking sides. Consequently, there is no saving in professional time by starting family therapy, particularly not if families are seen in their homes or if two therapists simultaneously treat the family, as is being done in some centers. Furthermore, if the therapist has had no experience with children, he may be in for some harrowing experiences, even if he avoids the pitfall of siding more with the adults in the family. A brilliant and witty review of the current field and status of family therapy by Jay Haley<sup>11</sup> can be recommended highly. Boszormenyi-Nagy and Framo<sup>2</sup> have contributed the most recent and best compilation of papers in this field.

#### GROUP THERAPY

This modality of treatment has been around much longer than family therapy, and copious literature is available on the subject. Group therapy as a treatment method received a tremendous boost during World War II, when it was used to make it possible for one therapist to reach more patients. Since then group therapy has become more sophisticated, and we have even seen the development of group psychoanalysis. It is now clear that group therapy is very much a treatment method in its own right, with definite indications and equally definite limitations. Thus it cannot and should not be used as a substitute for individual psychotherapy, but may supplement the latter or be the treatment of choice or even be contraindicated.

Many clinics now offer certain patients simultaneous individual and group therapy without any complaints that these two treatment methods compete with each other. Individual therapy reaches primarily and fairly exclusively the patient's internal conflicts, confusions, defenses, etc., whereas group therapy deals more with the aspects of the total functioning personality of the patient

in relation to the environment—that is, the social aspects of his behavior. Patients who have trouble with introspection, such as patients with character disorders, acting out teenagers, children with limited cultural and educational backgrounds, are the ones most apt to benefit more from group therapy than from individual therapy. A number of these children may, through the help of group therapy, get to the point where introspection becomes more tolerable and then become amenable to individual psychotherapy. Schizoid children with fears of social contacts do poorly in groups until they have gained more self-confidence in individual psychotherapy, at which time group therapy can be very helpful in helping them in developing better social skills.

We need to remind ourselves that “group therapy” is not a generic term and covers a great number of different techniques and approaches. An excellent and scholarly discussion of group therapy can be found in S. R. Slavson's: *A Textbook in Analytic Group Therapy*,<sup>16</sup> which is highly recommended. Foulkes and Anthony<sup>8</sup> have contributed another excellent discussion of this topic.

#### RESIDENTIAL TREATMENT

Residential treatment, (treatment conducted while living away from home) is another treatment modality which has matured and become better defined in the last three decades. Residential treatment is not to provide the child with a home away from home, but to provide him with an environment which can tolerate the child's assaults without crumbling or retaliating, which can offer the child psychological and—if needed—physical control against his own impulses, and which above all can offer the child living experiences throughout the day geared to the child's changing needs and tolerance. The child can, for example, join a group and interact for a while, then withdraw to reconstitute himself, without feeling pressured to do one or the other. He is also given an opportunity to constantly review with staff members his behavior and his reactions as they occur while they are still fresh, recent reality (cf. Redl and Wineman<sup>13</sup>). Thus a

mirror is held up to the child while at the same time he is helped to be less inundated by his feelings and impulses. If this can be accomplished successfully, the child gets a moratorium to marshal his inherent strengths against his illness.

Children who are destructive to themselves and others, who keep running away, who have extremely poor or nonexistent ego controls, who have become extremely frightened of the environment or who, through their symptoms and behavior, constantly bring others in conflict against them are children who can benefit greatly from residential treatment. Children from families where destructive wishes between the child and parents are poorly defended also usually are good candidates for residential treatment, as are children whose parents are crumbling psychologically. Some children need residential treatment because they are unable to make use of or fit into educational facilities in their communities in spite of adequate intellectual ability. Then there are the children where a stalemate has been reached in outpatient treatment because of inalterable factors within the family or because they need more round-the-clock support and therapeutic experiences than can be offered them in a family setting. Residential treatment also often is beneficial for children of limited ability, who need to develop more self-confidence by having an opportunity to compete with other children on their own level of ability. It may be difficult to offer retarded teenagers safe social experiences with peers, and this consideration sometimes may lead to a recommendation for residential treatment.

Residential treatment, then, is a very specific form of treatment but one which often has many frightening meanings to parents and children as well because it involves separation from the home. It is wise, therefore, never to make a recommendation for residential treatment lightly and then preferably in the context of an ongoing process with the child and the parents, so that their feelings and anxieties about the recommended separation can be elicited, dealt with, and respected. Sometimes family members need a long time before they can accept the separation, and they may tax the nerves and the patience of their helpers severely. However,



residential treatment is unlikely to succeed with the child if the child senses that his parents do not really endorse and believe in the treatment. Much wasted motion can be avoided, therefore, if referral for such treatment is made only after the recommendation has been thoroughly worked through with the family. Even so, residential treatment remains a difficult task, as has been dramatically described by Ekstein and co-workers.<sup>5</sup> ☐

*Part II of this article will appear in the May issue of The Journal.*

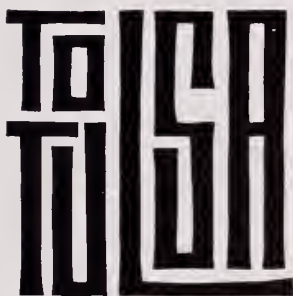
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## ABSTRACTS

### DEXTROSTIX ESTIMATES

During the screening program for diabetes in November 1964, the Dextrostix method of rapid blood glucose determination was used in testing 8,714 adults. Of these, 985 (11 per cent) were positive, i.e., had blood glucose levels over 130 mgm. per cent, and then were given a simplified carbohydrate tolerance test. The venous blood glucose level was determined one hour after the load by the Auto Analyzer method. In approximately two-thirds of these cases a portion of the same specimen was also tested by the Dextrostix method.

The Dextrostix method uses a paper strip impregnated with an enzyme-chromagen system which when exposed to ascending concentrations of glucose for one minute turns from gray to various shades of blue, which are rated on a scale ranging from 40 to 250 mgm. per cent. There has been considerable variation of opinion concerning its degree of accuracy and for this reason some have questioned its use. The screening program was used to evaluate its accuracy under field conditions, its extent of error, and variations of results with different personnel.

In 82 per cent of the cases, the Dextrostix estimate was within 30 mgm. per cent of the Auto Analyzer value. Errors exceeding 30 mgm. per cent were more common when the blood glucose was less than 90 mgm. per cent. There were 38 cases with Dextrostix estimates "greater than 250 mgm. per cent," 27 of these cases were also read as over 250 mgm. per cent by the Auto Analyzer; six were between 200 and 249 mgm. per cent, and only five were less than 200 mgm. per cent on the Auto Analyzer.

Those with blood glucose under 150 mgm. per cent were classified as negative for diabetes, those from 150 to 199 mgm. per cent as borderline, and those exceeding 199 mgm. per cent were positive. Using these criteria only one per cent of the negative values was classified as positive, seven per cent were classified as borderline; 92 per cent of the negative values were correctly classified by the Dextrostix. Of the positive group five per cent were falsely classified as negative, 20 per cent as borderline, and the remaining 75 per cent were correctly classified.

Analysis by the observers showed that there was a tendency to overestimate the concentration when it was low and to underestimate the concentration when it was high tending to read toward the average value.

The authors concluded that the Dextrostix method can be quite useful in mass screening.

This article is especially recommended to those considering the use of a laboratory tool which is relatively simple and inexpensive and has much to offer for situations where a rapid evaluation of the blood glucose is necessary. Its use in the emergency room has unquestioned value.

Dextrostix Estimates of Blood Glucose in Mass Screening for Diabetes. K. M. West, J. H. Stein, and T. J. Sanders. ASPHS, December 1966.

### DEVELOPMENT OF SEXUAL IDENTIFICATION

This article presents a lucid evaluation of the development by each child of his sexual identity and concepts of masculinity and femininity which enable him to

achieve heterosexual maturity. Somatic and psychological sex do not always coincide. Somatic aberrations include chromosomal sex, gonadal sex, hormonal sex, and variations in external genitalia and internal reproductive organs.

Core gender, the sense of maleness or femaleness, is a basic concept universally recognized in all cultures. It is derived from: 1. anatomy of the external genitalia, 2. attitudes of parents and peers, and 3. biological forces. Actually the third force is the parental attitude toward the child's gender assigned on the basis of the external genitalia. A child reared unequivocally as male or female is fixed in his gender role by the age of two and one-half years; the child reared by parents uncertain of its gender may see itself as neither male nor female. The only successful reports of changing sexuality have come from this latter group. Studies of patients with the problem of intersex showed that a clear cut assignment to a somatic gender in early infancy led to a clear cut psychological identity regardless of whether this identity was compatible with somatic measures.

The next aspect of sexual identification occurs during the period three to six. During this time, the sense of masculinity or femininity is layered on the core gender. At this time social, cultural, and parental factors establish the individual's psychologic concepts of sexuality. During this time parental approval plays an extremely important role.

Puberty represents the blossoming of secondary sex characteristics and the final step in developing sexual identification. During this time a stable, firm relationship with parents is important in developing patterns to follow. Persons outside the family now begin to assume importance as symbols of identification. Often this presents conflict as parents find it hard to let the child remove the intense emotional investment he has in his parents. Peer relationships have come to assume major importance in establishing guidelines for concepts of masculinity or femininity.

This article is a well written survey of the important psychological and somatic influences on sexual attitudes.

The Development of Sexual Identification. James L. Mathis, M.D., Southern Medical Journal, 59:(11), 1282-1286, 1966.

### RECENT PUBLICATIONS

The *Journal* welcomes the opportunity to list current publications by any Oklahoma physician.

Gastrointestinal Circulation. E. D. Jacobson. Science 154: 1366-1369, 1966.

Congenital Agammaglobulinemia: A Review. J. G. Campbell and H. D. Riley, Jr., Southern Med. Jr., 59: 1369, 1966.

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Water Intoxication Induced by Oxytocin Administration. J. Self. Am. Jr. Med. Sc., 252: 573, 1966.

The Similarities between Baboon and Human Blood Clotting. J. W. Hampton and C. Matthews. J. Appl. Physiol., 2: 1713, 1966. □



# Books As Clinical Tools

## CLINICAL REFERENCES ON INFECTIOUS DISEASE

HAROLD G. MUCHMORE, M.D.

When a disease declines in frequency, it does not disappear, rather knowledge of the disease disappears. This aphorism is particularly applicable to the field of infectious disease where the decrease of contagious bacterial infections such as typhoid fever and diphtheria has been accompanied by a decreasing knowledge about these ailments among physicians generally. This declining usable knowledge is understandable, and perhaps justifiable, when one considers that an infrequent case occurrence calls for infrequent clinical use of this knowledge. For this reason up-to-date information to meet the requirements presented by the infrequent case is necessary.

Two books answer these needs well. These are *Communicable and Infectious Diseases* by Franklin H. Top, and the other is *Infectious Diseases of Children* by Saul Krugman and Robert Ward. Top's book covers adult infections as well as those of children, while Krugman and Ward's book deals primarily with infectious diseases of childhood. Both of these books have been revised often enough to remain up-to-date and to speak authoritatively. The fifth edition of Top's book was published in 1964, as was the third edition of the book of Krugman and Ward.

Present concepts of infectious disease include the problems of nosocomial infections due to staphylococci and gram-negative organisms such as *Escherichia* and *Pseudomonas*. Top's book contains more informa-

tion in these areas than does Krugman and Ward's.

Advances in infectious disease and in microbiology, including immunology, have been as rapid as in other fields of medicine. This expanding information is impossible to encompass, and is most difficult to apply effectively in clinical medicine. *Bacterial and Mycotic Infections of Man* edited by Rene J. Dubos and James G. Hirsch, and *Viral and Rickettsial Infections of Man* edited by Frank L. Horsfall, Jr. and Igor Tamm come closest to achieving these difficult tasks. These books have a more basic approach to infectious disease, more thoroughly dealing with problems of etiology and pathogenesis of disease, than do the more clinically oriented books of Top and Krugman and Ward.

Specific information and recommendations dealing with immunization procedures, isolation requirements and public health aspects of infectious disease are contained in *Control of Communicable Diseases in Man*. This remarkable little manual is an official report of the American Public Health Association, and presents a wealth of reliable information in a very concise manner. The booklet is kept current by revision each five years, and is probably one of the few books which should be available to every practitioner of medicine.

The books noted above do not cover the advances in immunology and auto-immune disease. Information on these subjects and of other aspects of microbiology must be obtained from other sources. □

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One of a series sponsored by the Department of Continuing Education, University of Oklahoma Medical Center.

## *Notes on Acute "Benign Idiopathic" Pericarditis*

HARRIS D. RILEY, JR., M.D.\*

Following the description by Bing in 1933 of an epidemic of pericarditis, numerous reports of similar cases, many termed "idiopathic" or "benign," soon appeared. It rapidly became apparent that, despite the similarity of clinical features, not all of the cases had a single etiology. The use of the term "idiopathic pericarditis" dates back to the mid-18th century and has always represented a wastebasket of various undiagnosed types of pericardial disease. Cardiomyopathies involving the myocardium, pericardium, or both, may occur during infections of various types—bacterial, rickettsial, viral, protozoan, fungal or helminthic—in which the heart may be involved, but is not the primary target; in others the heart is the sole organ affected. The list of etiological causes and types of pericarditis has grown progressively, removing from the "idiopathic" classification more and more of the cases. Since Christian in 1951 proposed that primary pericarditis might be of viral etiology, it has been popular to regard all cases of pericarditis to which a specific

cause cannot be assigned as of viral etiology. There is conclusive proof that some cases are due to specific viral infections; however, not all cases can be ascribed to such a cause, and thus the growing tendency to substitute "viral" or "probable viral" for "idiopathic" is to be decried. The term viral pericarditis should be reserved for cases of proved viral origin. Also, it should be recognized that, whereas the predominant clinical features may be related to the pericardial involvement, the pathological process often extends to the myocardium. In some cases of pericarditis the major clinical manifestations relate to the myocardial involvement. "Acute" and "benign" are also erroneous designations, as a significant number of such cases become recurrent or chronic and may be associated with serious illness which sometimes progresses to chronic invalidism or death.

Considerable highly suggestive but indirect evidence has accumulated indicating a causal relationship of certain viruses with acute pericarditis. Confirmation has come with the isolation of coxsackieviruses Group-B from the pericardial fluid and myocardium. Since that time, the etiological role of other

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viral agents has been documented. However, these advances have allowed a specific etiology to be assigned to only a relatively small percentage of the total number of cases. The controversy as to the extent of the etiologic role of viruses in this syndrome continues.

It seems clear that in infants and children coxsackievirus antigenic types B 1-5 may involve the heart. The infection may be so mild as to be missed, or so severe as to be fatal. In the newborn period and in early infancy the infection produced by these viruses is usually a serious, fulminating systemic one with hepatitis, meningoencephalitis, pericarditis and myocarditis. There is a decrease in multiple organ susceptibility with increasing age. In older children infection is more likely to present as pericarditis, aseptic meningitis, pleurodynia, or orchitis often accompanied by an exanthem. The role of coxsackievirus B-6 and of the A group in diseases of the heart is not clear, but cardiac involvement in mice has been produced by a strain of coxsackie A-9 virus. Coxsackievirus A-16 has been isolated from the heart of a seven-week-old infant at autopsy. Valvulitis has been produced in mice by experimental infection with coxsackievirus B-4. It has been suggested that some cases of endocarditis may be viral in origin. Cardiac lesions have also been produced in experimental animals by infection with reovirus type-1.

Indirect evidence of an etiologic relationship between pericarditis and several other infectious agents is available. These include ECHO viruses, adenovirus, Mycoplasma, lymphogranuloma venereum virus and Rickettsia burneti (Q fever). An association with infectious mononucleosis and hepatitis has been postulated. Some of the viral and other infectious agents which most commonly produce the picture of myocarditis and others

which are as yet unrecognized undoubtedly can involve the pericardium. It is important to note that a virus of any type has been isolated from the pericardial fluid in only a few cases of acute pericarditis and has never been recovered from this source in a patient with recurrent or chronic effusion. It has been postulated that many of the cases of acute pericarditis are due to a hypersensitivity (auto-immune) reaction and that this reaction is a response to a viral infection.

To make an etiologic diagnosis and to decrease the number of cases to which the term "idiopathic" is applied, appropriate specimens for isolation of causative micro-organism and for serologic study should be obtained during the acute and convalescent phase of the illness. For confirmation of a viral etiology, both isolation of the agent and a significant rise in antibody are necessary.

Improved semantic clarity would result if there were a return to the use of the term "primary pericarditis" to designate those patients who have only pericarditis and no other systemic inflammatory process, as the term primary myocardial disease is used for patients with myocardiopathy.

Although originally recognized as a disease predominantly of children, acute pericarditis can affect persons of all ages. It is quite common in adolescents, young adults, and has been reported in the newborn. It is likely that the disease occurs much more frequently in infancy and other ages, but is erroneously regarded as "fever of undetermined origin." Familial and community epidemics have been observed.

The entity is totally misnamed "acute benign" pericarditis as the disease is chronic or recurrent in 20 to 60 per cent of reported cases, is not always benign and can cause tamponade or pericardial constriction and often is associated with myocarditis and epicarditis. □

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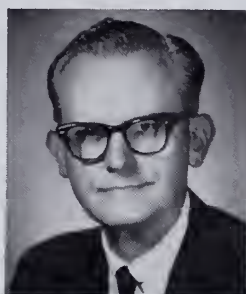
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Maxwell A. Johnson, M.D., Tulsa, General Chairman

James G. Moore, M.D., Tulsa, Program Chairman

William M. Benzing, M.D., Tulsa, Social Chairman

Elvin M. Amen, M.D., Bartlesville

Robert S. Ellis, M.D., Oklahoma City

Howard A. Bennett, M.D., Tulsa

Ray V. McIntyre, M.D., Kingfisher

Irwin H. Brown, M.D., Oklahoma City

James W. Murphree, M.D., Ponca City

Richard B. Price, M.D., Oklahoma City

# Digest of Events

## HOTEL ACCOMMODATIONS

Headquarters for the 61st Annual Meeting will be the Mayo Hotel, Tulsa, where a large block of rooms has been reserved for members of the Oklahoma State Medical Association. Physicians are requested to make their own reservations by writing directly to the Mayo Hotel, 115 W. 5th, Tulsa, Oklahoma—providing the hotel with dates and times of arrival and departure.

All annual meeting business, scientific and exhibit activities are scheduled for the third and fourth floors of the Assembly Hall in the Tulsa Assembly Center. The Center is two blocks from the Mayo.

## REGISTRATION

Registration will open Thursday, May 11th, at 11:00 a.m. in the third floor foyer of the Tulsa Assembly Center, at the entrance to the exhibit area.

Members of the House of Delegates (including the Board of Trustees) may register at the General Registration Desk beginning at 11:00 a.m. May 11th, and will receive special badges upon presentation of their credentials cards. Registration will also be open at 8:00 a.m. on Friday morning, May 12th, immediately preceding the opening session of the House. Portfolios, containing all business items to be acted on, will be distributed at the time of registration.

## BOARD OF TRUSTEES

The OSMA Board of Trustees will conduct its annual business meeting Thursday afternoon, May 11th. The meeting will convene in the Tulsa Assembly Center at 1:30 p.m. and should adjourn by 5:00 p.m.

## HOUSE OF DELEGATES

The OSMA House of Delegates will conduct two sessions during the 1967 annual meeting.

The opening meeting will be held the morning of Friday, May 12th, and the closing session is scheduled for Saturday morning, May 13th. Both sessions will convene at 9:00

a.m. in the Tulsa Assembly Center and business should be concluded by noon each day.

The opening session will feature the appearances of special guests, introduction of reports and resolutions, nominations of OSMA general officers, AMA Delegates and Alternates, and Board of Trustees candidates.

Reference committees will conduct open hearings on the business items on Friday afternoon, beginning at 4:00 p.m. Reference committee meetings will be held in the Tulsa Assembly Center. All members of the association are invited to attend these meetings and express their opinions.

Reference committees will prepare reports containing recommendations for presentation to the closing session of the House on Saturday morning.

Elections and a special appearance of Charles L. Hudson, M.D., President of the AMA, will be scheduled for the Saturday session.

At the conclusion of the Friday and Saturday morning sessions, all delegates are invited to attend the free "Stage Door Canteen" luncheons to be held on the stage of the Assembly Hall each day at noon.

Coffee will be available all day each day at a special coffee bar in the exhibit area.

## SCIENTIFIC SESSIONS

The scientific portion of the annual meeting program will be held Thursday afternoon and all day Friday and Saturday, May 11th through 13th.

Thirteen specialty societies are co-sponsoring section meetings in their respective fields of interest. All section meetings are open, however, to the entire association membership. All meetings will be held in the Tulsa Assembly Center.

A detailed program appears on pages 222 to 226 of this *Journal*.

Thursday afternoon, May 11th, the sections on radiology and pediatrics and a special session of general interest, the "Malpractice University," will meet. The latter two will convene at 1:30 p.m. and radiology will begin at 2:00 p.m.



Friday morning, May 12th, the session on general surgery will start at 9:15 a.m., while the section on psychiatry and neurology will convene at 9:30 a.m.

Obstetrics and gynecology will meet at 1:30 p.m. Friday afternoon along with the section on internal medicine at 2:00 p.m.

Four sections will meet Saturday morning, May 13th, following a special breakfast seminar on "Revascularization of the Myocardium—Newer Concepts." Orthopedics will convene at 9:00 a.m., otolaryngology at 9:30 a.m. and the section on ophthalmology and the section on dermatology at 10:00 a.m.

Scheduled for Saturday afternoon at 1:30 p.m. are the sections on general practice and urology. The anesthesiology section will begin at 2:00 p.m.

### **MALPRACTICE UNIVERSITY**

One of the major highlights of the 61st annual meeting will be the special program on professional liability, "Malpractice University," to be conducted Thursday afternoon, May 11th.

The session will be designed to help the physician avoid the common pitfalls that lead to malpractice lawsuits. R. Crawford Morris, LL.B., of Cleveland, Ohio, will talk on "The Care and Feeding of Doctors" and John McPherrin, LL.B., of Oklahoma City, defense counsel for INA, will present "Common Causes of Malpractice Actions in Oklahoma." Henry B. Alsobrook, Jr., LL.B., New Orleans, Louisiana, will present "Vicarious Liability and the Captain of the Ship Doctrine."

Members of the audience are urged and encouraged to ask questions on any medico-legal point they do not understand or would like to have clarified.

### **STAGE DOOR CANTEENS**

The proverbial free lunch will become a reality on Friday and Saturday when the Utica Square National Bank of Tulsa and Blue Cross-Blue Shield Plans of Oklahoma will sponsor the State Door Canteens for all comers.

Corned beef, pastrami, baked ham sandwiches, plus beer, soft drinks, and assorted relishes will be served in an informal atmosphere on the stage of the Assembly Hall.

Your name badge will be your admission ticket.

### **CALIFORNIA WINE FESTIVAL**

Thursday evening's social event will be a California Wine Festival to be held on the 14th floor of the beautiful Petroleum Club, overlooking downtown Tulsa.

Sponsored by the Wine Growers of California, the wine-tasting will feature the best of several West Coast vintages served while the sun sets over Tulsa. Rare and exotic cheeses will be available to tantalize the taste buds.

The party will start at 6:30 p.m. and last until 8:00 p.m.

### **GASLIGHT PARTY**

Friday night's Gaslight Party will bring back the days of the derby hat. Dixieland and dance tunes will be played by the Buddy Billen Band.

The party, to be held in the Crystal Ballroom of the Mayo Hotel, will feature a "psychedelic" light show. This has been described as being somewhere near the twilight zone.

A go-go girl chorus line and a barbershop quartet will furnish extra-special entertainment and imported German draft beer and a sandwich bar will provide nourishment for the evening's activities. Set-ups will be furnished for those who prefer other beverages.

The party will start at 8:00 p.m. and admission will be \$4 per person.

### **PRESIDENT'S INAUGURAL DINNER-DANCE**

On Saturday night, May 13th, the annual President's Inaugural Dinner-Dance will be held in the Crystal Ballroom of the Mayo at 7:30 p.m. A social hour will precede the banquet at 6:30 p.m.

Maxwell A. Johnson, M.D., a Tulsa urologist, will succeed Ennis M. Gullatt, M.D., Ada, as President of the Oklahoma State Medical Association. The brief inaugural ceremony, including a short talk by Charles L. Hudson, M.D., President of the American Medical Association, will be conducted at the conclusion of the banquet.

Eddie "The Banjo King" Peabody will be the featured entertainment for the evening. Peabody has been the nation's top banjo en-



tertainers since the 1920's. The Moe Billington Band will back-up Peabody and furnish the music for the dance.

The dinner-dance is scheduled to last until 12:30 a.m. and will be B.Y.O.L. Strip sirloin steaks are featured on the menu.

Tickets for the entire evening are only \$10.00 per person. They should be ordered in advance from the OSMA Executive Office, P.O. Box 18696, Oklahoma City 73118. Tickets for the Gaslight Party may be ordered at the same time.

Don't miss the social highlights of the OSMA year!

#### EXHIBITS

Fifty-four technical and 14 scientific or institutional exhibits will be set up in the Tulsa Assembly Center Hall for the annual meeting. All exhibits may be seen each day from 9:00 a.m. to 5:00 p.m., May 11th through 13th.

Entrance to the meeting rooms will be through the exhibit area, and the "Stage Door Canteens" will be held on the stage overlooking the area.

#### PAST-PRESIDENTS' BREAKFAST

The traditional breakfast for former presidents of the Oklahoma State Medical Association will be held on Saturday morning, May 13th, at 7:30 a.m. in the Mayo Hotel.

#### AUXILIARY MEETING

The Woman's Auxiliary to the OSMA will meet May 11th-13th in the Mayo Hotel. A full program of events is contained on pages 233 to 236 of this *Journal*.

#### OMPAC HOSPITALITY ROOM

OMPAC will sponsor a hospitality room each day of the annual meeting in the Tulsa Assembly Center. All members of OSMA are invited to drop in at any time for a few minutes of rest and political conversation.

A special OMPAC booth will be in the technical exhibit area.

#### OSMA GOLF TOURNAMENT

Tulsa's beautiful Meadowbrook Country Club, 81st and South Memorial, will be the site of the annual OSMA Golf Tournament on Friday, May 12th. Participants may tee-off at any time on that date. Locker facilities, food and drinks are available, but no formal luncheons or dinners are planned. Contestants should check in at the pro shop.

Trophies for winners will be presented at the President's Inaugural Dinner-Dance on Saturday night, May 13th, in the Crystal Ballroom of the Mayo.

#### SMA COUNCILORS MEETING

The Councilors of the Southern Medical Association will meet at 7:30 a.m., Friday, May 12th, in the Studio Room of the Mayo Hotel.

## PLAN NOW FOR THE OSMA EUROPEAN TOUR SUMMER OF 1968

London   ●   Paris   ●   Zurich   ●   Rome  
Venice   ●   Florence   ●   Berlin

OBTAIN PRICE INFORMATION AND DETAILS

AT TOUR BOOTH   ●   OSMA ANNUAL MEETING   ●   TULSA

## AMA President To Speak



CHARLES L. HUDSON, M.D.  
Cleveland, Ohio

Doctor Hudson, President of the American Medical Association, will speak to the House of Delegates on Saturday morning, May 13th, and again at the President's Inaugural Dinner-Dance on Saturday evening.

## Distinguished Guest Lecturers



**HENRY B. ALSOBROOK, Jr., LL.B.**  
New Orleans, Louisiana

Partner in the Law Firm of Adams and Reese. LL.B., Tulane University, 1957. Member, Standing Committee on Commerce, American Bar Association and member, American Judicature Society.



**RICHARD J. BABCOCK, M.D.**  
Salt Lake City, Utah

Instructor in Obstetrics and Gynecology, University of Utah School of Medicine. M.D., New York Medical College, 1956. Residency training, University of Utah College of Medicine.



**ARMAND E. BRODEUR, M.D.**  
St. Louis, Missouri

Associate Professor of Radiology, St. Louis University School of Medicine. M.D., St. Louis University School of Medicine, 1947. Fellow, American College of Radiology. Member, Radiological Society of North America.



**CHALMERS R. CARR, M.D.**  
Charlotte, North Carolina

Engaged in the private practice of orthopedics. M.D., Jefferson Medical College, 1936. Fellow, American College of Surgeons and American Academy of Orthopaedic Surgeons. Diplomate, American Board of Orthopaedic Surgery.





**SAMUEL L. DeLONG, M.D.**  
Devon, Pennsylvania

Associate Professor of Clinical Ophthalmology, Graduate School of Medicine, University of Pennsylvania. M.D., University of Pennsylvania School of Medicine, 1945. Certified, American Board of Ophthalmology.



**FREDERICK R. GUILFORD, M.D.**  
Houston, Texas

Clinical Professor of Otolaryngology, Baylor University School of Medicine. M.D., Ohio State University Medical School, 1940. Certified, American Board of Otolaryngology.



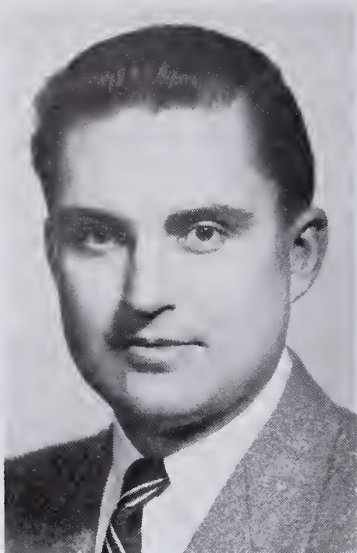
**CHARLES L. HUDSON, M.D.**  
Cleveland, Ohio

Associate Clinical Professor of Medicine, Western Reserve University. M.D., University of Michigan School of Medicine, 1930. Diplomate, American Board of Internal Medicine.



**JAMES G. HUGHES, M.D.**  
Memphis, Tennessee

Chairman, Department of Pediatrics, University of Tennessee School of Medicine. M.D., University of Tennessee College of Medicine, 1935. Immediate Past-President, American Academy of Pediatrics.



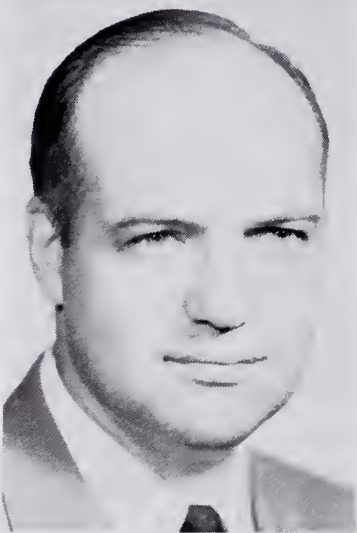
**G. THOMAS JANSEN, M.D.**  
Little Rock, Arkansas

Associate Clinical Professor of Dermatology, University of Arkansas School of Medicine. M.D., University of Wisconsin School of Medicine, 1950. Dermatologic training, University of Michigan Medical School.



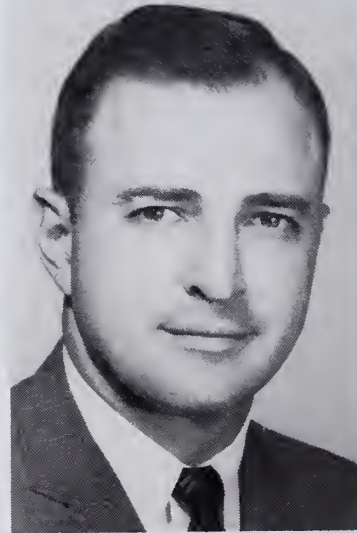
**R. CRAWFORD MORRIS, LL.B.**  
Cleveland, Ohio

Partner in the Law Firm of Arter, Hadden, Wykoff and Van Duzer. LL.B., Harvard Law School. Fellow, American College of Trial Lawyers and International Academy of Trial Lawyers.



**JOHN H. MOYER, III, M.D.**  
Philadelphia, Pennsylvania

Chairman, Department of Medicine, Hahnemann Medical College. M.D., University of Pennsylvania School of Medicine, 1943. Fellow, American College of Physicians and American College of Chest Physicians.



**JOHN L. OCHSNER, M.D.**  
New Orleans, Louisiana

Clinical Assistant Professor of Surgery, Tulane University School of Medicine. M.D., Tulane University School of Medicine, 1952. Certified, American Board of Surgery and American Board of Thoracic Surgery.



**RAY T. PARMLEY, M.D.**  
Kansas City, Kansas

Chairman, Department of Anesthesiology, University of Kansas Medical Center. M.D., Tulane University School of Medicine, 1944. Past-President, Southern Society of Anesthesiologists.



**PAUL C. PETERS, M.D.**  
Dallas, Texas

Associate Professor of Urology, University of Texas Southwestern Medical School. M.D., Indiana University School of Medicine, 1953. Certified, American Board of Urology.



**PHILIP B. PHILLIPS, M.D.**  
Pensacola, Florida

Engaged in the private practice of psychiatry. M.D., University of Arkansas School of Medicine, 1941. Fellow, American Psychiatric Association. Certified, American Board of Psychiatry and Neurology.



**DANIEL E. SCOTT, M.D.**  
Dallas, Texas

Assistant Professor of Obstetrics and Gynecology, University of Texas Southwestern Medical School. M.D., University of Texas Southwestern Medical School, 1961. Fellow, American Academy of Obstetrics and Gynecology.



# SCIENTIFIC AND EDUCATIONAL PROGRAM

All Meetings To Be Held on The Third and Fourth Floors, Tulsa Assembly Center

## Thursday Afternoon, May 11th, 1967

### "MALPRACTICE UNIVERSITY"

C. E. Woodard, M.D., Tulsa, Presiding

A teaching program concerning the medicolegal anatomy of malpractice claims.

1:30 p.m. THE CARE AND FEEDING OF DOCTORS

R. Crawford Morris, LL.B., Cleveland, Ohio

*A noted defense attorney, author and lecturer speaks on professional negligence and standards of care, battery and consent, Res Ipsa Loquitur, and defense techniques.*

2:30 p.m. VICARIOUS LIABILITY AND THE CAPTAIN OF THE SHIP DOCTRINE

Henry B. Alsobrook, Jr., LL.B., New Orleans, Louisiana

*The Vice-Chairman of the Medicolegal Committee of the Defense Research Institute discusses the liability of the physician for acts of his partners and employees, plus the surgeon's responsibility in the operating room.*

3:15 p.m. INTERMISSION

3:30 p.m. COMMON CAUSES OF MALPRACTICE ACTIONS IN OKLAHOMA

John M. McPherrren, LL.B., Oklahoma City

*Based upon actual trial experience in Oklahoma, a defense attorney for the OSMA-endorsed professional liability insurance carrier reveals preventable errors in medicolegal or public relations judgment which have either provoked claims or complicated their judicious settlement.*

4:00 p.m. AN APPRAISAL OF OKLAHOMA MALPRACTICE LOSSES

Rodman Frates, President, C. L. Frates and Company, Oklahoma City

*The OSMA insurance counselor presents a brief review of loss statistics since 1959, based upon types of treatment involved and the geographical distribution of losses.*

4:15 p.m. THE OSMA-SPONSORED PROFESSIONAL LIABILITY INSURANCE PROGRAM

C. E. Woodard, M.D., Tulsa, Chairman, OSMA Council on Insurance

4:30 p.m. QUESTIONS AND ANSWERS

*Participants: Mr. Morris, Mr. Alsobrook, Mr. McPherrren, Mr. Frates, Doctor Woodard, and Mr. Joseph F. Glass, LL.B., Tulsa*

### SECTION ON RADIOLOGY

Dave B. Lhevine, M.D., Tulsa, Presiding

2:00 p.m. RECENT ADVANCES IN RADIATION THERAPY

Carl R. Bogardus, Jr., M.D., Associate Professor of Radiology, University of Oklahoma Medical Center, Oklahoma City

2:30 p.m. ECHOSONOGRAPHY

J. Kent Chestnut, M.D., Assistant Professor of Radiology, University of Oklahoma Medical Center, Oklahoma City

3:00 p.m. INTERMISSION

3:10 p.m. PEDIATRIC UROLOGIC X-RAY DIAGNOSIS

Armand E. Brodeur, M.D., Associate Professor of Radiology, St. Louis University School of Medicine, St. Louis, Missouri

3:45 p.m. A NEW LOOK AT THE MALABSORPTION SYNDROME WITH SPECIAL EMPHASIS ON MUCOSAL PATTERNS

Leonard E. Swischuk, M.D., Assistant Professor of Radiology, University of Oklahoma Medical Center, Oklahoma City

4:10 p.m. QUESTIONS AND ANSWERS

### SECTION ON PEDIATRICS

Harris D. Riley, Jr., M.D., Oklahoma City, Presiding

1:30 p.m. MANAGEMENT OF THE EPILEPTIC CHILD

James G. Hughes, M.D., Chairman, Department of Pediatrics, University of Tennessee School of Medicine, Memphis, Tennessee

- 2:15 p.m. THE ROLE OF CHROMOSOME ANALYSIS IN DIAGNOSIS AND COUNSELING  
J. Rodman Seely, M.D., Associate Professor of Pediatrics and Biochemistry, University of Oklahoma Medical Center, *Oklahoma City*
- 3:00 p.m. EMPHYSEMA IN CHILDHOOD  
Leon Horowitz, M.D., *Tulsa*, Visiting Lecturer in Pediatrics, University of Oklahoma Medical Center, *Oklahoma City*
- 3:45 p.m. INTERMISSION
- 4:00 p.m. CURRENT CONCEPTS OF RHEUMATIC FEVER AND RHEUMATIC HEART DISEASE  
W. M. Thompson, M.D., Associate Professor of Pediatrics, University of Oklahoma Medical Center, *Oklahoma City*
- 4:45 p.m. COMMENT AND DISCUSSION: Doctor Hughes

## Friday Morning, May 12th, 1967

### SECTION ON GENERAL SURGERY

C. Thomas Thompson, M.D., *Tulsa*, Presiding

- 9:15 a.m. MECHANISMS AND MANAGEMENT OF CHEST TRAUMA  
Lazer Greenfield, M.D., Assistant Professor, Department of Surgery, University of Oklahoma Medical Center, *Oklahoma City*
- 10:00 a.m. THE MECHANISMS OF SHOCK  
Lerner B. Hinshaw, Ph.D., Professor of Physiology and Associate Research Professor of Preventive Medicine and Public Health and Surgery, University of Oklahoma Medical Center, *Oklahoma City*
- 10:30 a.m. INTERMISSION
- 10:40 a.m. EXTENDED SURGERY OF THE BILIARY SYSTEM  
G. Rainey Williams, M.D., Professor of Surgery, University of Oklahoma Medical Center, *Oklahoma City*
- 11:10 a.m. SURGICAL CONSIDERATIONS IN CORONARY ARTERY DISEASE  
John L. Ochsner, M.D., Clinical Assistant Professor of Surgery, Tulane University School of Medicine, *New Orleans, Louisiana*
- 11:40 a.m. QUESTIONS AND ANSWERS

### SECTION ON PSYCHIATRY AND NEUROLOGY

John F. Gray, Jr., M.D., *Tulsa*, Presiding

- 9:30 a.m. THE PRACTICING PHYSICIAN AND THE SEXUAL OFFENDER  
James L. Mathis, M.D., Assistant Professor of Psychiatry, University of Oklahoma Medical Center, *Oklahoma City*
- 10:00 a.m. THE PREMATURE RETIREMENT SYNDROME  
William Lee Savage, M.D., Assistant Professor of Psychiatry, University of Oklahoma Medical Center, *Oklahoma City*
- 10:30 a.m. INTERMISSION
- 10:40 a.m. THE PSYCHIATRIC DAY HOSPITAL  
George E. Parkhurst, M.D., *Tulsa*
- 11:10 a.m. A PSYCHIATRIST LOOKS AT IMPAIRMENT AND DISABILITY  
Philip B. Phillips, M.D., *Pensacola, Florida*
- 11:50 a.m. QUESTIONS AND ANSWERS

## Friday Afternoon, May 12th, 1967

### SECTION ON OBSTETRICS AND GYNECOLOGY

Theme: "She Bled and She Bled"

Sterling T. Crawford, M.D., *Oklahoma City*, Presiding

- 1:30 p.m. AN APPRAISAL OF OBSTETRIC HEMORRHAGE IN OKLAHOMA  
Earl M. Bricker, Jr., M.D., Assistant Clinical Professor of Obstetrics and Gynecology, University of Oklahoma Medical Center, *Oklahoma City*

- 2:00 p.m. THE LABORATORY MANAGEMENT OF THE OB-GYN PATIENT WITH SEVERE BLEEDING DIFFICULTIES  
Dale E. Van Wormer, M.D., *Tulsa*
- 2:30 p.m. SOME RECENT VIEWS ON MECHANISMS AND DIAGNOSIS OF HEMORRHAGE IN OBSTETRICS AND GYNECOLOGY  
Richard J. Babcock, M.D., Instructor in Obstetrics and Gynecology, University of Utah School of Medicine, *Salt Lake City, Utah*
- 3:00 p.m. INTERMISSION  
Adolph N. Vammen, M.D., *Tulsa*, Presiding
- 3:15 p.m. CONSIDERATIONS OF RECENT KNOWLEDGE ON THE CLINICAL MANAGEMENT OF HEMORRHAGE IN OBSTETRICS AND GYNECOLOGY  
Daniel E. Scott, M.D., Assistant Professor of Obstetrics and Gynecology, University of Texas Southwestern Medical School, *Dallas, Texas*
- 3:50 p.m. PANEL DISCUSSION: OBSTETRIC HEMORRHAGE—CONSIDERATION OF PROBLEMS  
*Participants:* Warren M. Crosby, M.D., Associate Professor of Gynecology and Obstetrics, University of Oklahoma Medical Center, *Oklahoma City*; Doctors Scott, Babcock, Van Wormer and Bricker

#### SECTION ON INTERNAL MEDICINE

**Bartis M. Kent, M.D., Muskogee, Presiding**

- 2:00 p.m. COMPARATIVE PHARMACODYNAMICS AND THE CLINICAL USE OF DIURETICS  
John H. Moyer, III, M.D., Chairman, Department of Medicine, Hahnemann Medical College, *Philadelphia, Pennsylvania*
- 3:00 p.m. INTERMISSION
- 3:15 p.m. PANEL DISCUSSION: THE MANAGEMENT OF CHRONIC RENAL FAILURE  
CASE PRESENTATION  
*Participants:* William O. Smith, M.D., Professor of Medicine, University of Oklahoma Medical Center, *Oklahoma City*, Moderator; Robert Lindeman, M.D., Assistant Professor of Preventive Medicine and Public Health and Physiology, University of Oklahoma Medical Center, *Oklahoma City*; Ben I. Heller, M.D., Professor and Head, Laboratory Medicine, University of Oklahoma Medical Center, *Oklahoma City*; and John P. Colmore, M.D., Professor of Medicine and Pharmacology, University of Oklahoma Medical Center, *Oklahoma City*

## Saturday Morning, May 13th, 1967

- 7:30 a.m. BREAKFAST SEMINAR: REVASCULARIZATION OF THE MYOCARDIUM—NEWER CONCEPTS  
*Participants:* John L. Ochsner, M.D., Associate Professor of Surgery, Tulane University School of Medicine, *New Orleans, Louisiana*; John Henry Moyer, III, M.D., Chairman, Department of Medicine, Hahnemann Medical College, *Philadelphia, Pennsylvania*  
Sponsored by: American College of Chest Physicians, Oklahoma Chapter

#### SECTION ON ORTHOPEDICS

**Worth M. Gross, M.D., Tulsa, Presiding**

**Symposium: Disability Evaluation**

- 9:00 a.m. DISABILITY EVALUATION OF INJURIES TO THE EXTREMITIES AND THEIR RELATION TO THE BODY AS A WHOLE  
Chalmers R. Carr, M.D., *Charlotte, North Carolina*
- 9:20 a.m. DISABILITY EVALUATION OF INJURIES TO THE BACK AND NECK, AND THEIR RELATION TO THE BODY AS A WHOLE  
Earl D. McBride, M.D., Professor Emeritus, Department of Orthopedic Surgery, University of Oklahoma Medical Center, *Oklahoma City*
- 9:40 a.m. DISABILITY EVALUATION AND THE LAW  
Honorable A. R. Swank, Jr., Presiding Judge, Oklahoma State Industrial Court, *Oklahoma City*



- 10:00 a.m. INTERMISSION
- 10:10 a.m. MOCK TRIAL: A CASE OF DISABILITY EVALUATION  
 Judge: Honorable A. R. Swank, Jr.  
 Patient: John Doe  
 Claimants: Dennis J. Downing, LL.B., *Tulsa*, Attorney for Plaintiff, Jack L. Richardson, M.D., *Tulsa*  
 Respondents (Insurance Company): Dale F. Whitten, LL.B., Attorney for the Defendant, *Tulsa*, Robert Hall Johnson, M.D., *Tulsa*
- 10:40 a.m. PANEL DISCUSSION: DISABILITY EVALUATION  
 All participants
- 11:00 a.m. QUESTIONS AND ANSWERS

### SECTION ON OPHTHALMOLOGY

**C. William Simcoe, M.D., *Tulsa*, Presiding**

- 10:00 a.m. OCULAR MANIFESTATIONS OF SYSTEMIC DRUGS  
 Samuel L. DeLong, M.D., Associate Professor of Ophthalmology, Graduate School of Medicine, University of Pennsylvania, *Philadelphia, Pennsylvania*
- 10:45 a.m. INTERMISSION
- 11:00 a.m. GROUP DISCUSSION: CURRENT PROBLEMS IN OPHTHALMOLOGY  
 Discussion and Comment by Doctor DeLong

### SECTION ON OTOLARYNGOLOGY

**David O. Merifield, M.D., *Tulsa*, Presiding**

- 9:30 a.m. SURGICAL MANAGEMENT OF CHOLESTEATOMA  
 Frederick R. Guilford, M.D., Clinical Professor of Otology, Baylor University School of Medicine, *Houston, Texas*
- QUESTIONS AND ANSWERS
- 10:30 a.m. INTERMISSION
- 10:45 a.m. PROBLEMS IN RECONSTRUCTION OF THE MIDDLE EAR  
 Doctor Guilford
- QUESTIONS AND ANSWERS

### SECTION ON DERMATOLOGY

**C. Maurice Coffey, M.D., *Tulsa*, Presiding**

- 10:00 a.m. PHOTOSENSITIVITY  
 Mark Allen Everett, M.D., Professor and Chairman, Department of Dermatology, University of Oklahoma Medical Center, *Oklahoma City*
- 10:30 a.m. THE PIGMENTED SKIN LESION—ITS MANAGEMENT  
 Thomas E. Nix, Jr., M.D., Assistant Professor, Department of Dermatology, University of Oklahoma Medical Center, *Oklahoma City*
- 11:00 a.m. INTERMISSION
- 11:10 a.m. CHEMICOSURGICAL TREATMENT OF SKIN CANCER  
 William R. R. Loney, II, M.D., *Bartlesville*, Visiting Lecturer in the Department of Dermatology, University of Oklahoma Medical Center, *Oklahoma City*
- 11:30 a.m. MANAGEMENT OF SOME PREMALIGNANT DERMATOSES  
 G. Thomas Jansen, M.D., Associate Clinical Professor of Dermatology, University of Arkansas School of Medicine, *Little Rock, Arkansas*
- 12:10 p.m. QUESTIONS AND ANSWERS

## Saturday Afternoon, May 13th, 1967

### SECTION ON GENERAL PRACTICE

**Joseph Salamy, M.D., *Tulsa*, Presiding**

- 1:30 p.m. INDICATIONS OF OVULATION WITH CLOMIPHENE  
 Richard J. Babcock, M.D., Instructor of Obstetrics and Gynecology, University of Utah School of Medicine, *Salt Lake City, Utah*

- 2:00 p.m. EVALUATION OF IRON SORBITOL THERAPY IN IRON DEFICIENCY ANEMIA  
Daniel E. Scott, M.D., Assistant Professor of Obstetrics and Gynecology, University of Texas Southwestern Medical School, *Dallas, Texas*
- 2:30 p.m. INDICATIONS FOR SURGERY IN CORONARY INSUFFICIENCY  
John L. Ochsner, M.D., Clinical Assistant Professor of Surgery, Tulane University School of Medicine, *New Orleans, Louisiana*
- 3:00 p.m. INTERMISSION
- 3:15 p.m. ACNE—FRIEND OR FOE?  
G. Thomas Jansen, M.D., Associate Clinical Professor of Dermatology, University of Arkansas School of Medicine, *Little Rock, Arkansas*
- 3:45 p.m. THE CRITICAL YEAR IN FAMILY MEDICINE—WHAT IT IS, WHO WILL PRACTICE IT?  
Roger L. Lienke, M.D., Associate Professor of Preventive Medicine and Public Health and Chairman, Division of Family Medicine, University of Oklahoma Medical Center, *Oklahoma City*
- 4:15 p.m. QUESTIONS AND ANSWERS

### SECTION ON UROLOGY

**William L. Parry, M.D., Oklahoma City, Presiding**

- 1:30 p.m. UNUSUAL ECTOPIC TESTIS  
Fred R. Martin, M.D., *Tulsa*
- 1:40 p.m. MYOGLOBINURIA—REPORT OF TWO CASES  
Victor L. Robards, M.D., *Tulsa*
- 1:50 p.m. RENAL DISEASE DETECTED DURING CARDIAC CATHETERIZATION  
Marion K. Ledbetter, M.D., *Tulsa*, and Howard M. Cohenour, M.D., *Tulsa*
- 2:20 p.m. COMPARISON OF SUPRAPUBIC VERSUS TRANSURETHRAL PROSTATECTOMY  
John T. Boaz, M.D., *Oklahoma City*, and J. Frederick LeDerer, M.D., *Oklahoma City*
- 2:50 p.m. INTERMISSION
- 3:10 p.m. CURRENT CONCEPTS OF PROSTATIC CARCINOMA  
Paul C. Peters, M.D., Associate Professor of Urology, University of Texas Southwestern Medical School, *Dallas, Texas*
- 4:00 p.m. EXPERIENCE WITH RADICAL PROSTATECTOMY AT THE UNIVERSITY OF OKLAHOMA HOSPITALS. 1962-1966  
Jerry B. Blankenship, M.D., *Oklahoma City*
- 4:30 p.m. QUESTIONS AND ANSWERS

### SECTION ON ANESTHESIOLOGY

**Howard A. Bennett, M.D., Tulsa, Presiding**

- 2:00 p.m. HEMODYNAMIC EFFECTS OF ELECTRONARCOSIS  
Walter H. Massion, M.D., Associate Professor, Department of Anesthesiology, University of Oklahoma Medical Center, *Oklahoma City*
- 2:00 p.m. PRESENT STATUS OF MUSCLE RELAXANTS  
Ray T. Parmley, M.D., Chairman, Department of Anesthesiology, University of Kansas School of Medicine, *Kansas City, Kansas*
- 3:00 p.m. INTERMISSION
- 3:15 p.m. PANEL: CURRENT STATUS OF ANESTHESIA TEACHING PROGRAMS  
James A. Cutter, M.D., Professor and Head, Department of Anesthesiology, University of Oklahoma Medical Center, *Oklahoma City*; Doctor Parmley, Joseph M. White, Jr., M.D., Professor of Anesthesiology, Associate Dean and Associate Director of the University of Oklahoma Medical Center, *Oklahoma City*

# Technical Exhibitors

The Technical Exhibit of the 61st Annual Meeting of the Oklahoma State Medical Association will be held on the third floor of the Tulsa Assembly Center.

Abbott Laboratories	Mid-Continent Surgical Supply Co.
Amercana Corporation	Murray Myers Co.
Astra Laboratories	The Mutual Benefit Life Insurance Company
Ayerst Laboratories	Oklahoma Collectors Association
Beverly Hills Hospital	Ortho Pharmaceutical Corporation
R. K. Black, Inc.	OSMA Group Insurance
Blue Cross and Blue Shield Plans of Oklahoma	Parke, Davis & Company
Bristol Laboratories	Pfizer Laboratories
Ciba Pharmaceutical Company	Planned Securities Corporation
The Coca Cola Company	Professional Management Midwest
Community Rental and Sales	Roche Laboratories
Dictaphone Corporation	R. J. Reynolds Tobacco Company
A. G. Edwards & Sons Company	Sandoz Pharmaceuticals
Encyclopaedia Britannica	Scott-Rice Office Supply
Endo Laboratories, Inc.	Schering Corporation
Geigy Pharmaceuticals	G. D. Searle & Company
John Hancock Mutual Life Insurance Co.	Seven-Up Bottling Company
Insurance Company of North America	Smith Kline & French Laboratories
Lanier Company	S.O.F.T., Inc.
Lederle Laboratories	Southwestern Bell Telephone Company
*Eli Lilly & Company	E. R. Squibb & Sons
Mead Johnson Laboratories	Travel Unlimited
Medical Services, Inc.	S. J. Tutag & Company
Medical Specialty Company	The Upjohn Company
Medco Products Company, Inc.	Warner-Chilcott Laboratories
Merck Sharp & Dohme	Barney Welch Associates
*Contributor to the Scientific Program	Westwood Pharmaceuticals
	J. D. Young Co., Inc.

# Scientific and Institutional Exhibits

Otologic Surgery and Conservation Oncology of Head and Neck—David O. Merifield, M.D., Tulsa, Donald L. Mishler, M.D., Tulsa	Surgical Experience With Chronic Non-Specific Ulcerative Colitis in the Southwest—Robert J. Rowe, M.D., Dallas, Texas
Cardiovascular Surgery—Albert L. Shirkey, M.D., Tulsa, Maurice E. Fuquay, M.D., Tulsa, Marion K. Ledbetter, M.D., Tulsa	United Cerebral Palsy
Aneurysms and Occlusive Disease—R. M. Shepard, Jr., M.D., Tulsa, Harold A. White, M.D., Tulsa, Albert L. Shirkey, M.D., Tulsa	American Cancer Society, Oklahoma Division
Epiphyseal Injuries—James E. White, M.D., Tulsa, John H. Smith, M.D., Tulsa	Oklahoma Health Sciences Foundation, Inc.
	Oklahoma Podiatry Association
	Southern Medical Association
	Cornell Auto Crash Injury Research Study
	Oklahoma Medical Political Action Committee
	American Red Cross
	Social Security Administration—"Medicare"



# President's Inaugural Dinner - Dance

Saturday Nite • May 13th • Mayo Hotel

Delightful drinks, fine cuisine, and top talent entertainment await you and your wife at the big Inaugural Dinner-Dance. A social hour at 6:30 p.m. in the Mayo Hotel's Terrace Room will be followed at 7:30 p.m. by the banquet (strip sirloin) and dance (Moe Billington Band) in the Crystal Ballroom. Maxwell A. Johnson, M.D., Tulsa, is to be inaugurated as OSMA President and Charles L. Hudson, M.D., AMA President, from Cleveland, Ohio, will speak. Banjo Artist Eddie Peabody will entertain. Tickets for a wonderful evening are only \$10.00 each, obtainable from the OSMA, P.O. Box 18696, Oklahoma City. Get them early!



EDDIE PEABODY  
"The Banjo King"

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This Foundation is dedicated to support  
**CHARITY, RESEARCH AND EDUCATION**  
in our community at  
**ST. ANTHONY HOSPITAL**

# A G E N D A \*

## House of Delegates Meetings

### ANNUAL MEETING—OPENING SESSION

9:00 a.m., May 12th, Fourth Floor, Tulsa Assembly Center

- |                                     |                                |
|-------------------------------------|--------------------------------|
| I. Call to Order                    | VII. Board of Trustees Report  |
| II. Report of Credentials Committee | VIII. Treasurer's Report       |
| III. Introduction of Guests         | IX. Council, Committee Reports |
| IV. Remarks of Speaker              | X. Introduction of Resolutions |
| V. Nomination of Officers, Trustees | XI. Necrology Report           |
| VI. Report of President             |                                |

(Reference Committees will meet at 4:00 p.m., May 12th, in third and fourth floor meeting rooms, Tulsa Assembly Center)

### ANNUAL MEETING—CLOSING SESSION

9:00 a.m., May 13th, Fourth Floor, Tulsa Assembly Center

- I. Call to Order
- II. Report of Credentials Committee
- III. Reference Committee Reports
- IV. Election of Officers, Trustees
- V. Adjournment

\*Condensed Version, Subject to Modification

### OFFICERS TO BE ELECTED

President-Elect (One-Year Term)  
Vice-President (One-Year Term)  
Delegates to the AMA (Two-Year Term)  
Alternate Delegates to the AMA (Two-Year Term)  
Trustees From Districts I through V

### IMPORTANT

*Council and Committee Reports to be considered by the House of Delegates will be mailed to all Delegates, Alternate Delegates and Presidents of County Medical Societies on or about April 18th, 1967.*

## DOES THE VERY FINEST ALWAYS COST MORE?

Ninety-nine times out of a hundred, you do pay more for the finest thing in its field.

*But there's one big exception . . .  
LIFE INSURANCE and the planning it takes.*

You can have the very finest agent analyze your needs and tailor your life insurance program—and it won't cost you one penny more.

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- ... guarantees you an income when you are disabled from an accident or sickness.
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# Oklahoma State Medical Association

## 1967 DELEGATES AND ALTERNATES

SOCIETY	DELEGATE	ALTERNATE DELEGATE
ALFALFA- WOODS	C. A. Traverse, M.D., Alva	I. F. Stephenson, M.D., Alva
ATOKA BRYAN COAL	J. T. Colwick, Jr., M.D., Durant	Bob L. Bruton, M.D., Durant
BECKHAM (Roger-Mills)	H. K. Speed, M.D., Sayre	William M. Leebron, M.D., Elk City
BLAINE	A. K. Cox, M.D., Watonga	Jose Abelarde, M.D., Canton
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CARTER	Frank W. Clark, M.D., Ardmore	J. H. Veazey, M.D., Ardmore
LOVE MARSHALL	James V. Miller, M.D., Ardmore	E. W. Koger, M.D., Ardmore
CHOCTAW PUSHMATAHA	Bill E. Woodruff, M.D., Hugo	Henry D. Wolfe, M.D., Hugo
CLEVELAND McCLAIN	David Dycus, M.D., Moore Hayden Donahue, M.D., Norman James L. Haddock, M.D., Norman	J. V. Simmering, M.D., Norman Robert R. Sullivan, M.D., Norman Thomas W. Thurston, M.D., Norman
COMANCHE COTTON	W. A. Matthey, M.D., Lawton Paul N. Vann, M.D., Lawton	Donald E. Wicker, M.D., Lawton W. P. Jolly, M.D., Lawton
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CRAIG DELAWARE OTTAWA	David Carson, M.D., Fairland	N. A. Cotner, M.D., Grove
CREEK CUSTER	Robert White, M.D., Sapulpa Ross Deputy, M.D., Clinton	M. S. Bartlett, M.D., Sapulpa J. Harold Tisdal, M.D., Clinton
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LINCOLN LOGAN McCURTAIN MURRAY	Harold Baugh, M.D., Meeker James S. Perry, M.D., Guthrie Thomas E. Rhea, M.D., Idabel R. W. Morton, M.D., Sulphur	Jack C. Mileham, M.D., Chandler R. F. Ringrose, M.D., Guthrie (Not Reported) (Not Reported)
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OKLAHOMA STATE MEDICAL ASSOCIATION

MAY 11th, 12th, 13th, 1967

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TULSA, OKLAHOMA

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MRS. CLAUDE E. LIVELY  
McAlester  
*Editor, Auxiliary Page*  
*The Journal, OSMa*

## FOR YOUR ENTERTAINMENT . . .

- \* May 11th — 6:30 — 8:00 p.m. California Wine Festival, Petroleum Club
- \* May 12th — 12:00 p.m. Luncheon and Style show, Emerald Room, Mayo Hotel
- \* May 12th — 8:00 — 12:00 a.m. "Gaslight Party", Crystal Ballroom, Mayo Hotel
- \* May 13th — 6:30 — 12:30 a.m. Social Hour and President's Inaugural Dinner-Dance, Crystal Ballroom, Mayo Hotel

## GENERAL INFORMATION

### REGISTRATION—FOUNDERS ROOM MEZZANINE—MAYO HOTEL

Thursday, May 11th ..... 1:30 p.m.-5:00 p.m.  
Friday, May 12th ..... 8:30 a.m.-5:00 p.m.  
Saturday, May 13th ..... 8:30 a.m.-1:00 p.m.

### HOSPITALITY ROOM—FOUNDERS ROOM MEZZANINE—MAYO HOTEL

Continental breakfast will be served 8:30-9:30 a.m.  
Friday and Saturday

### DOCTORS' DAY EXHIBITS—FOUNDERS ROOM MEZZANINE—MAYO HOTEL

Mrs. Benjamin Gaston, Chairman

### MEDICAL ADVISORS

Joe Leslie Duer, M.D., Woodward  
Ollie McBride, M.D., Ada  
Rex Kenyon, M.D., Oklahoma City

### CONVENTION COMMITTEE

CHAIRMAN: Mrs. Jack W. Newport  
CO-CHAIRMAN: Mrs. Raymond Peeples

Registration .....	Mrs. Charles E. Brighton
Credentials .....	Mrs. Charles J. Lilly
Hospitality .....	Mrs. J. F. Farish
Courtesy .....	Mrs. Hugh Perry, Jr.
Luncheon .....	Mrs. Houston Mount
Publicity .....	Mrs. Howard A. Bennett
Decorations .....	Mrs. Robert L. Kramer
Past-Presidents' Breakfast .....	Mrs. Iron H. Nelson
Tickets .....	Mrs. Daniel Storts
Fashion Show .....	Mrs. Donald E. Clements

Tickets will be on sale at the Registration Desk,  
Founders Room

## PROGRAM

### THURSDAY, MAY 11th, 1967

1:30-5:00 p.m. REGISTRATION AND HOSPITALITY,  
Founders Room, Mayo Hotel

6:30-8:00 p.m.—WINE AND CHEESE TASTING  
PARTY, Petroleum Club

7:30 p.m.—Dinner and Pre-Convention Board Meeting,  
at the home of Doctor and Mrs. Jack W. Newport  
Hostesses: Mrs. Jack W. Newport  
and Mrs. Raymond E. Peeples

### FRIDAY, MAY 12th, 1967

8:00 a.m.—PAST-PRESIDENTS' BREAKFAST, Room  
A, Second Floor, Mayo Hotel  
Hostess: Mrs. Iron H. Nelson

8:30 a.m.—REGISTRATION AND HOSPITALITY,  
Founders Room, Mezzanine, Mayo Hotel

9:30 a.m.—FIRST GENERAL SESSION. Emerald  
Room, Mezzanine, Mayo Hotel  
Mrs. Richard A. Clay, President, Woman's Aux-  
iliary to the Oklahoma State Medical Association,  
presiding

CALL TO ORDER: Mrs. Clay

INVOCATION: Mrs. George H. Garrison, Past-  
President, Woman's Auxiliary to the Oklahoma  
State Medical Association

PLEDGE OF LOYALTY: Mrs. Ennis M. Gullatt

WELCOME: Mrs. Robert D. Grubb, President,  
Woman's Auxiliary to the Tulsa County Medical  
Society

RESPONSE: Mrs. W. R. Cheatwood, Past-Presi-  
dent, Woman's Auxiliary to the Oklahoma State  
Medical Association

GREETINGS: Maxwell A. Johnson, M.D., Tulsa,  
President-Elect, Oklahoma State Medical Associ-  
ation

### INTRODUCTION OF SPECIAL GUESTS

PRESENTATION OF PAST-PRESIDENTS: Mrs.  
Iron H. Nelson, Past-President, Woman's Auxil-  
iary to the Oklahoma State Medical Association

SPECIAL GUEST SPEAKER: Mrs. Clare W.  
Johnson, Phoenix, Arizona, Western Regional  
Vice-President, Woman's Auxiliary to the Ameri-  
can Medical Association

ANNOUNCEMENTS: Mrs. Raymond E. Peeples,  
Co-Convention Chairman

ROLL CALL BY COUNTIES: Mrs. Samuel R.  
Turner, Tulsa, Secretary

REPORT OF CREDENTIALS COMMITTEE: Mrs.  
Charles Lilly

READING AND ADOPTION OF THE MINUTES:  
Mrs. Samuel R. Turner, Secretary

TREASURER'S REPORT: Mrs. E. Cotter Mur-  
ray, Oklahoma City, Treasurer, and Mrs. Scott  
Hendren, Oklahoma City, Treasurer-Elect

### REPORT OF OFFICERS:

First Vice-President—Mrs. E. Evans Chambers,  
Enid

Second Vice-President—Mrs. Port Johnson, Mus-  
kogee

Corresponding Secretary—Mrs. Harold Houk,  
Ponca City

Historian-Archivist—Mrs. Tom C. Sparks, Ard-  
more

Parliamentarian—Mrs. Richard E. Witt, Mus-  
kogee

Editor, "Sooner Physician's Wife"—Mrs. W. R. R. Loney, Tulsa  
Editor, Auxiliary Page, *The Journal*, Oklahoma State Medical Association—Mrs. Claude E. Lively, McAlester

#### REPORTS OF COMMITTEE CHAIRMEN:

American Medical Education and Research Foundation—Mrs. J. Hartwell Dunn, Oklahoma City  
Bylaws and Revisions—Mrs. Joseph W. Kelso, Oklahoma City  
Community Service—Mrs. Harold Tisdal, Clinton  
Disaster Preparedness—Mrs. William H. Reiff, Oklahoma City  
Doctors' Day—Mrs. Elias Margo, Oklahoma City  
Finance and Budget—Mrs. Earl M. Bricker, Oklahoma City  
Health Careers—Mrs. Arthur Springall, Oklahoma City  
International Health Activities—Mrs. Jerold D. Kethley, Shawnee  
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Loan Fund—Mrs. Pat Fite, Sr., Muskogee  
Mental Health—Mrs. J. Hutchings White, Muskogee  
Program—Mrs. John W. Williams, Enid  
Rural Health—Mrs. J. T. Colwick, Jr., Durant  
Safety—Mrs. Forest Harris, Lawton  
Woman's Auxiliary to the Student American Medical Association—Mrs. Galen P. Robbins, Oklahoma City  
Nominating Committee—Mrs. George H. Miller, President-Elect

MEMORIAL SERVICE: Mrs. James F. McMurry, Past-President of the Woman's Auxiliary to the Oklahoma State Medical Association

#### ADJOURNMENT

12:00 Noon—LUNCHEON AND STYLE SHOW—"GALA HAPPY HAPPY TIME"

8:00 p.m.—GASLIGHT PARTY

### SATURDAY, MAY 13th, 1967

8:30 a.m.—REGISTRATION AND HOSPITALITY, Founders Room, Mezzanine, Mayo Hotel

9:30 a.m.—SECOND GENERAL SESSION: Emerald Room, Mayo Hotel  
Mrs. Richard A. Clay, President, presiding

INVOCATION: Mrs. Milton L. Berg, Tulsa

PLEDGE OF LOYALTY: Mrs. Maxwell A. Johnson, Tulsa

WELCOME: Mrs. Worth M. Gross, President-Elect, Tulsa County Medical Society

RESPONSE: Mrs. Richard E. Witt, Muskogee

GREETINGS: Ennis M. Gullatt, M.D., Ada, President, Oklahoma State Medical Association

#### INTRODUCTION OF GUESTS

GUEST SPEAKER: Mrs. C. Tolbert Wilkinson, Wake Forrest, North Carolina, President of the Woman's Auxiliary to the Southern Medical Association

ROLL CALL BY COUNTIES: Mrs. Samuel R. Turner, Tulsa, Secretary

#### REPORT OF CREDENTIALS COMMITTEE

#### REPORT OF COUNTY PRESIDENTS:

Atoka-Bryan-Coal .. Mrs. O. J. Colwick, Durant  
Carter-Love-Marshall ..

..... Mrs. John B. Adair, Ardmore  
Cleveland-McClain ..

..... Mrs. Wm. F. Crittendon, Norman  
Comanche-Cotton .. Mrs. Ross Demas, Lawton  
Custer .. Mrs. Floyd Simon, Clinton

East Central .. Mrs. Perry E. Hewitt, Muskogee  
Garfield-Kingfisher .. Mrs. W. H. Simon, Enid

Grady-Caddo .. Mrs. R. E. Herndon, Chickasha  
Kay-Noble .. Mrs. W. G. Sheldon, Blackwell

Oklahoma .. Mrs. Welborn W. Sanger, Okla. City  
Pittsburg ..

..... Mrs. William G. Blanchard, McAlester  
Kiowa-Washita .. Mrs. William Bernell

Pontotoc-Johnson .. Mrs. John Morey, Ada  
Pottawatomie .. Mrs. John A. Kienzle, Shawnee

Stephens .. Mrs. John Jennings, Duncan  
Tulsa .. Mrs. Robert D. Grubb, Tulsa

Washington .. Mrs. John E. Scott, Bartlesville

#### UNFINISHED BUSINESS:

#### NEW BUSINESS:

ELECTION OF DELEGATES TO NATIONAL CONVENTION:

#### ELECTION OF OFFICERS:

INSTALLATION OF OFFICERS: Mrs. Clare W. Johnson, Phoenix, Arizona, Western Region Vice-President, Woman's Auxiliary to the American Medical Association

PRESENTATION OF PAST-PRESIDENT'S EMBLEM: Mrs. Richard E. Witt

PRESENTATION OF PRESIDENT'S PIN AND GAVEL: Mrs. Richard A. Clay

RESPONSE: Mrs. George H. Miller

#### ANNOUNCEMENTS:

#### ADJOURNMENT:

1:00 p.m.—INAUGURAL LUNCHEON AND POST-CONVENTION SCHOOL OF INSTRUCTION, Formal Lounge, University of Tulsa. Mrs. George H. Miller, Tulsa, President of the Woman's Auxiliary to the Oklahoma State Medical Association, presiding

6:30 p.m. SOCIAL HOUR AND RECEPTION

7:30 p.m. PRESIDENT'S INAUGURAL DINNER-DANCE, Crystal Ballroom, Mayo Hotel

OKLAHOMA STATE MEDICAL ASSOCIATION



## DEATH

AUGUSTIN H. SHI, M.D.  
1873-1967

One of Oklahoma's pioneer physicians, Augustin H. Shi, M.D., died in Ada, February 26th, 1967. Born in Forsythe, Georgia, October 10th, 1873, Doctor Shi attended medical school in Chattanooga, Tennessee and later graduated from Fort Worth Medical School in Texas. He established his practice in Old McGee, Indian Territory in 1898. In 1904, he

moved to Stratford where he continued to practice until his retirement in 1965.

Doctor Shi was a charter member of the Chickasaw Medical Association which was organized at Davis, Chickasaw Nation, Indian Territory in 1900. This medical association continued to function with the Indian Territory Medical Association until the statehood of Oklahoma when the Oklahoma State Medical Association was formed. He was a charter member of the Washita Valley Medical

Association which became the Garvin County Medical Society after statehood. He maintained his membership in this society from the time it was organized and later served the group as president.

In recognition of over a half-century of devoted service to humanity, Doctor Shi was presented a Fifty-Year Pin by the Oklahoma State Medical Association in 1948. In 1950, he was honored again by the OSMA with the presentation of a Life Membership. □

## Miscellaneous Advertisements

**CLINICAL RESEARCH.** Transfer of a clinical research program in aviation medicine to Oklahoma has created career Civil Service job opportunities for qualified physicians in ophthalmology, internal medicine, neurology and psychiatry. Research experience and an interest in aviation are required for work in this unique and challenging program to determine the physical and mental fitness of airmen. Ultra modern facilities. Starting salary to \$18,157. Liberal fringe benefits. Relocation expenses paid. License not required initially. Academic activities encouraged. Part-time practice permitted. Equal opportunity employer. Please send your curriculum vita to: Chief, Civil Aeromedical Institute, Federal Aviation Agency Aeronautical Center, P.O. Box 25082, Oklahoma City, Oklahoma 73125.

**WANTED:** Internist, Board Certified or Board eligible; full time in 390-bed general medical and surgical hospital; duties consist primarily of inpatient care with some outpatient clinic duties; beginning salary \$12,873 to \$20,585, depending upon qualifications plus liberal fringe benefits including annual and sick leave; insurance and retirement plan; non-discrimination in employment. Contact: Chief of Staff, Veterans Administration Hospital, Honor Heights Drive, Muskogee, Oklahoma.

**METROPOLITAN OPPORTUNITY** in Moore—fastest growing city in Oklahoma! Only three M.D.'s for 20,000 population. Will finish suite as desired by lessee. Contact Doctor Thomas J. Kelly, Northmoor Clinic, 1930 North Broadway, Moore, Oklahoma. SW 4-2210.

**PRACTICE OPPORTUNITY** for two general practitioners in community of 1,200 population, trade area of 7,000. 19-bed hospital just completed and new clinic building with complete facilities for each doctor. Contact Jerry Jannette, Administrator, Seiling Hospital, Seiling, Oklahoma.

**WANTED:** General practitioner for seven-man clinic in Southeast Kansas. Salary \$16,000 to \$20,000 a year. Chance for early partnership. Contact Charles H. Miller, M.D., Parsons Clinic, Parsons, Kansas 67357.

**SOLO GENERAL PRACTICE** for sale. Western Oklahoma. Net income \$30,000 to \$35,000. Contact Key C, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

### INSURANCE SPECIALISTS FOR THE MEDICAL PROFESSION

providing your newly approved

#### OSMA PROFESSIONAL LIABILITY INSURANCE

... and other Personal and Business Insurance Services programmed to meet each Doctor's individual needs.

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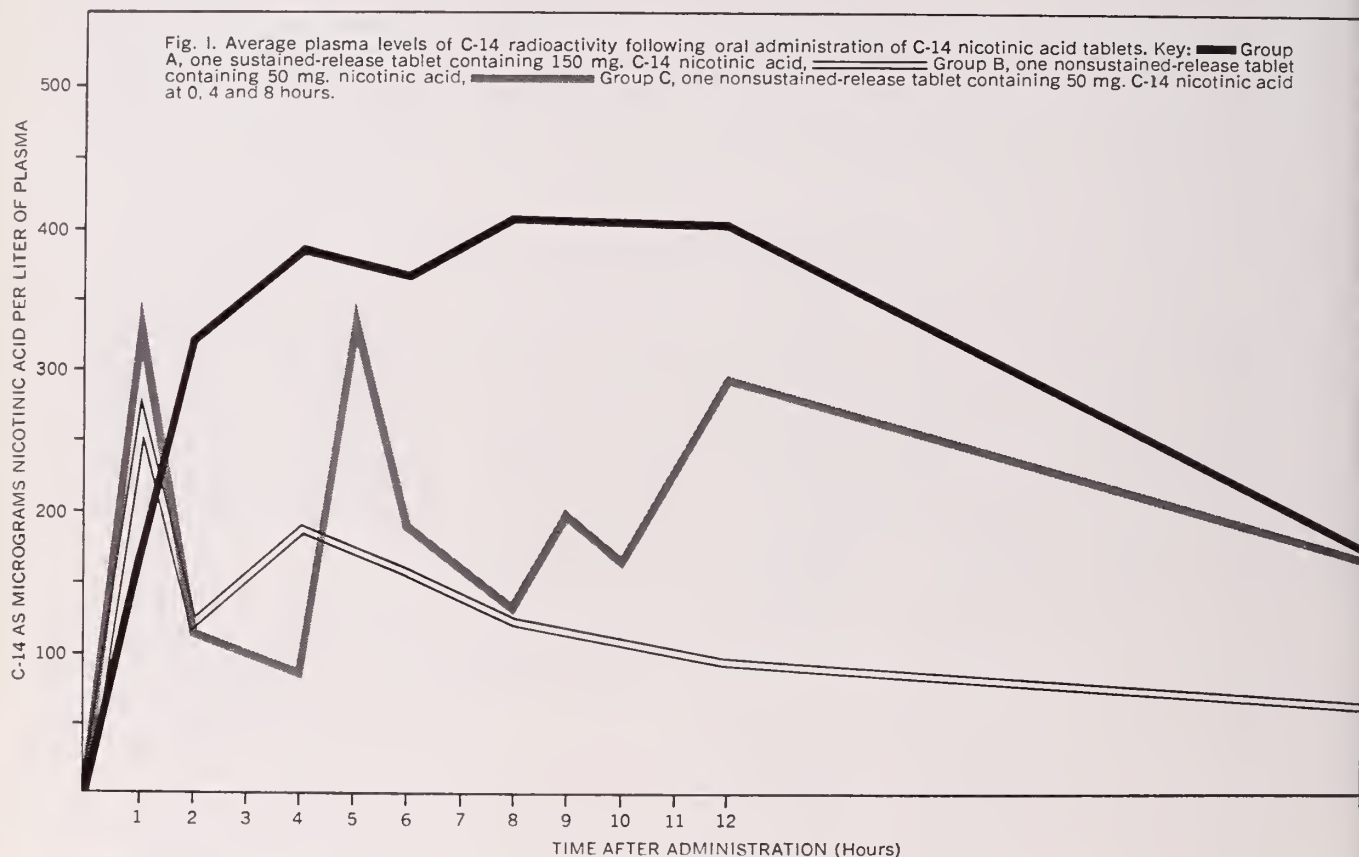


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OF NORTH AMERICA



Cameron Building  
2901 Classen Blvd. JA 8-3531  
Oklahoma City, Oklahoma

# Sustained circulatory, respiratory and cerebral stimulation for the



(fewer absent doses by  
absent-minded patients)

Human volunteer subjects were administered Geroniazol TT tablets with the nicotinic acid component made radioactive with C-14. Plasma and urine samples were analyzed. (See Figures I and II) The radioactive tracer study substantiated the previous clinical evidence that the release of nicotinic acid from the Geroniazol TT tablet produced a gradual rise in plasma levels to a plateau for a total of 12 hours and more.

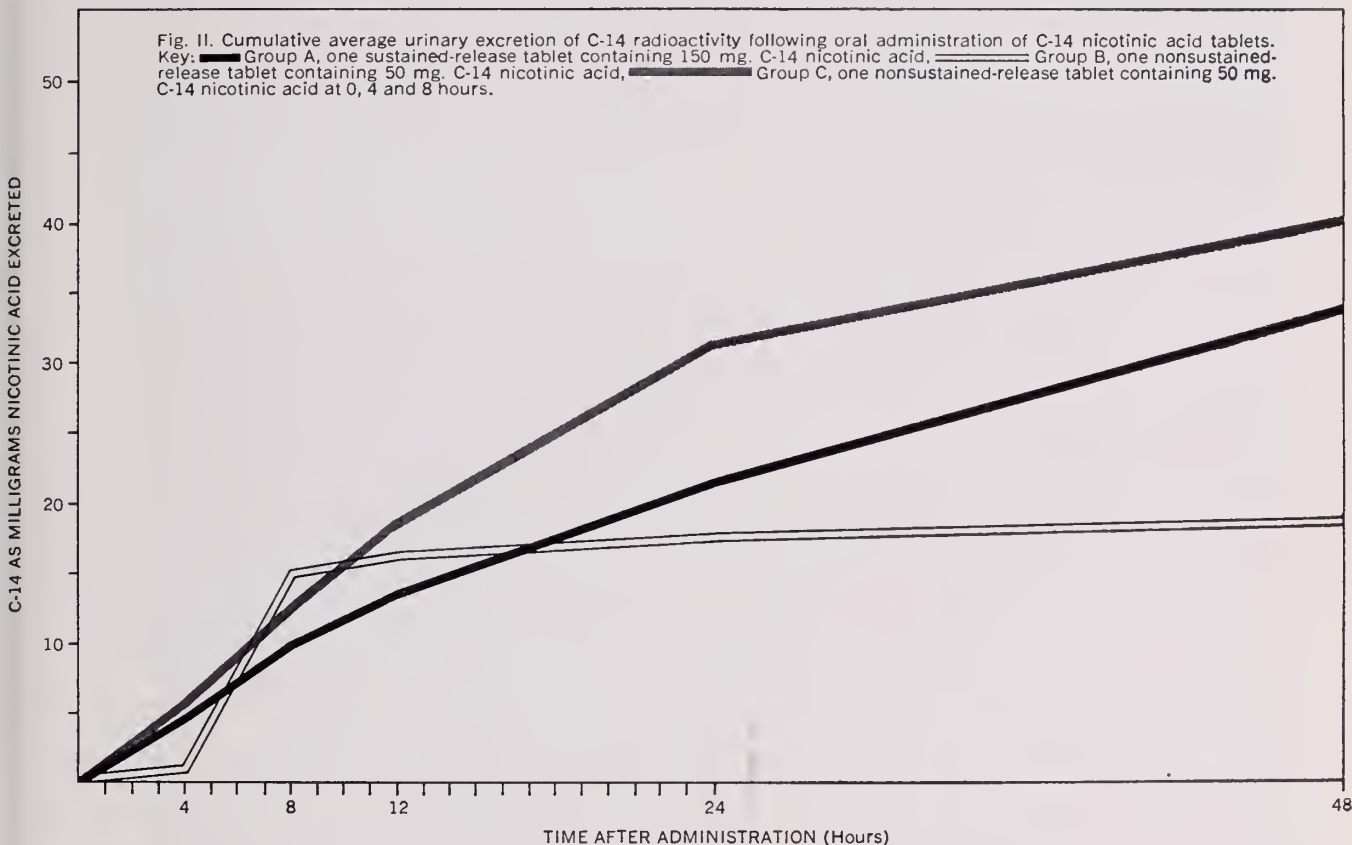
Such proven sustained activity makes the management of geriatric patients much easier by minimizing the possibility of neglected doses through absent-

mindedness or senile confusion. Therapy *can* be continuous on a daily dose of only one Geroniazol TT tablet every 12 hours.

The gradual release of nicotinic acid in Geroniazol TT will provide the well-known peripheral vasodilatation needed in patients with deficient circulation and with a minimum amount (if any) of "flushing." Also, cerebrovascular circulation is complemented by pentylentetrazol, long-established as a cerebral and respiratory stimulant.

Geroniazol TT improves the typical, unfortunate, signs of senile confusion. Patients become more alert,

# ged and debilitated



less confused and moody. Personal care, memory, emotional stability, social attention improve. Fatigue, apathy and irritability are reduced.

A prescription for 100 tablets of Geroniazol TT will permit your patients to enjoy the benefits of time-prolonged nicotinic acid/pentylenetetrazol therapy, at an economical price. Dosage is only one tablet every 12 hours.

**Contraindications:** There are no known contraindications.

**Precautions:** Exercise caution when treating patients with a low convulsive threshold.

**Side Effects:** Side effects are rarely encountered, however due to the vasodilatation effect of nicotinic acid, transitory mild nausea, flushing, tingling and pruritus are possible.

**Dosage:** One tablet every 12 hours.

**Supplied:** Prescribe bottles of 100 tablets, to take advantage of recent price reduction.

**References:** 1. Report by Nuclear Science & Engineering Corp., Pittsburgh, Pa., in files of Philips Roxane Laboratories. 2. Connolly, R.: W. Virginia Med. J. 56:263 (Aug.) 1960. 3. Curran, T. R., and Phelps, D. K.: Am. Pract. & Digest Treat. 11:617 (July) 1960.



"First with the Retro-Steroids"

PHILIPS ROXANE LABORATORIES

Division of Philips Roxane, Inc., Columbus, Ohio

A Subsidiary of Philips Electronics and Pharmaceutical Industries Corp.

# Geroniazol<sup>®</sup> TT

nicotinic acid 150 mg., pentylenetetrazol 300 mg.  
Tempotrol<sup>®</sup> Time Controlled Tablet





## One by one the family's downed Because the G.I. bug's around

Parepectolin for quick relief of acute diarrhea  
...soothes colicky pain with paregoric\*  
...consolidates fluid stools with pectin  
...adsorbs irritants with kaolin,  
and protects intestinal mucosa

Whether it's a 24-hour "bug", a food problem, or simply nervousness and anxiety, Parepectolin will bring the diarrhea under control until etiology can be determined. In some cases, Parepectolin may be all the therapy necessary.



# Parepectolin<sup>®</sup>

Each fluid ounce of creamy white suspension contains:

\*Paregoric (equivalent) . . . . . (1.0 dram) 3.7 ml.  
Contains opium ( $\frac{1}{4}$  grain) 15 mg. per fluid  
ounce.

warning: may be habit forming

Pectin . . . . . (2½ grains) 162 mg.  
Kaolin (specially purified) . . . (85 grains) 5.5 Gm.  
(alcohol 0.69%)

Usual Adult Dose: One or two tablespoonfuls three  
times daily.

Usual Children's Dose: One or two teaspoonfuls three  
times daily.



**WILLIAM H. RORER, INC.**  
Fort Washington, Pa.

## Tandearil<sup>®</sup> oxyphenbutazone

**Therapeutic Effects:** Tandearil is a nonhormonal compound which may rapidly resolve inflammation and help restore normal joint function. Its action does not affect pituitary-adrenal function or impair immune responses. Its value in osteoarthritis is especially noteworthy because this disorder responds inconsistently to steroids and is often resistant to salicylates. Further, indomethacin is limited only to osteoarthritis of the hip, whereas oxyphenbutazone is effective in all forms of the disease.

**Contraindications:** Edema; danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. The drug should not be given when the patient is senile or when other potent drugs are given concurrently.

**Warning:** If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy. Use with great caution in the first trimester of pregnancy.

**Precautions:** Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should be closely supervised and should be warned to report immediately fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools or other evidence of intestinal hemorrhage. Make regular blood counts. Discontinue the drug and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensives.

**Adverse Reactions:** The most common are nausea, edema and drug rash. The drug has been associated with peptic ulcer and may reactivate a latent peptic ulcer. Infrequently, agranulocytosis, or a generalized allergic reaction may occur and require withdrawal of medication. Stomatitis, salivary gland enlargement, vomiting, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported but cannot definitely be attributed to the drug. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

**Dosage in Osteoarthritis:** The initial daily dosage in adults is 300-600 mg. in divided daily doses. When improvement occurs, dosage should be decreased to the minimum effective level; this should not exceed 400 mg. daily, and is often achieved with only 100-200 mg. daily.

For complete details, please refer to full prescribing  
information. 6562-VI(B)R

**Availability:** Tablets of 100 mg.



Geigy Pharmaceuticals  
Division of Geigy Chemical Corporation  
Ardley, New York

Geigy

Tandearil®  
oxyphenbutazone

helps osteoarthritic  
joints move again



Please see ad-  
joining page for  
brief prescribing  
summary.

TA-4919 PC

Sperling, I.L.: 3 Years' Experience  
with Oxyphenbutazone in the  
Treatment of Rheumatic Disorders.  
Applied Therapeutics 6:117, 1964.

Watts, T.W., Jr.: Treatment of Rheu-  
matoid Disorders with Oxyphenbu-  
tazone, Clin. Med. 73:65, 1966.

3 out of 4 osteoarthritics com-  
pletely or markedly improved

76.9% of 407 patients

84.6% of 39 patients



# following infection

*B and C vitamins are therapy:* STRESSCAPS B and C vitamins in therapeutic amounts...help the body mobilize defenses during convalescence...aid response to primary therapy. The patient with a severe infection, and many others undergoing physiologic stress, may benefit from STRESSCAPS capsules.



## Stresscaps<sup>®</sup>

Stress Formula Vitamins Lederle



### Each capsule contains:

Vitamin B <sub>1</sub> (as Thiamine Mononitrate)	10 mg
Vitamin B <sub>2</sub> (Riboflavin)	10 mg
Vitamin B <sub>6</sub> (Pyridoxine HCl)	2 mg
Vitamin B <sub>12</sub> Crystalline	4 mcgm
Vitamin C (Ascorbic Acid)	300 mg
Niacinamide	100 mg
Calcium Pantothenate	20 mg

Recommended intake: Adults, 1 capsule daily, for the treatment of vitamin deficiencies. Supplied in decorative "reminder" jars of 30 and 100; bottles of 500.

LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York

**Lederle**  
626-6-3612



IT'S AS PLAIN  
AS THE  
NOSE ON HIS  
FACE.



UP TO 10-12 HOURS' CLEAR BREATHING ON ONE TABLET  
**Dimetapp® Extentabs®**

(Dimetane® [brompheniramine maleate], 12 mg.; phenylephrine HCl, 15 mg.; phenylpropanolamine HCl, 15 mg.)

In sinusitis, colds, or U.R.I., Dimetapp lets congested patients breathe easy again. Each Extentab brings welcome relief all day or all night, usually without drowsiness or overstimulation. Its key to success? The Dimetapp formula—Dimetane (brompheniramine maleate), a potent antihistamine reported in one study to have elicited side effects as few as the placebo,\* teamed with decongestants phenylephrine and phenylpropanolamine—in a dependable 10- to 12-hour form.

\*Schiller, I. W., and Lowell, F. C.: New England J. Med. 261:478, 1959.

**Contraindications:** Patients hypersensitive to antihistamines. Not recommended for use during pregnancy.

**Precautions:** Until the patient's response has been determined, he should be cautioned against engaging in operations requiring alertness. Administer with care to patients with cardiac or peripheral vascular diseases or hypertension.

**Side Effects:** Hypersensitivity reactions including skin rashes, urticaria, hypotension and thrombocytopenia have been reported on

rare occasions. Drowsiness, lassitude, nausea, giddiness, dryness of the mouth, mydriasis, increased irritability or excitement may be encountered.

**Dosage:** 1 Extentab morning and evening, or as needed.

**Supplied:** Bottles of 100 and 500.

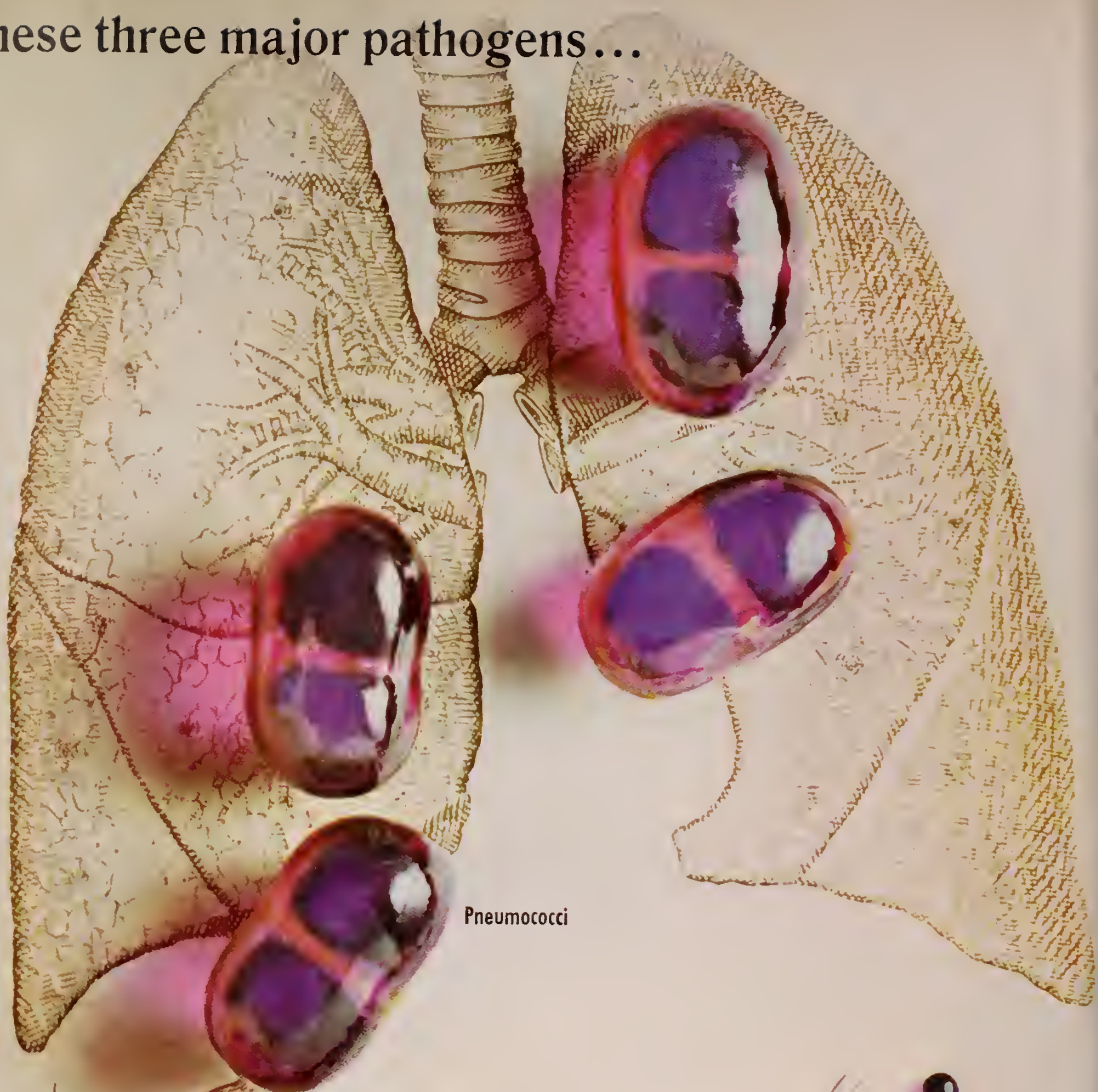
**Also available:** Dimetapp® Elixir for conventional *t.i.d.* or *q.i.d.* dosage. See package insert for further details.

A. H. ROBINS CO., INC.  
RICHMOND, VIRGINIA 23220

**A-H-ROBINS**



Against these three major pathogens...



Pneumococci

Penicillin-Sensitive  
Staphylococci



Beta-Hemolytic  
Streptococci



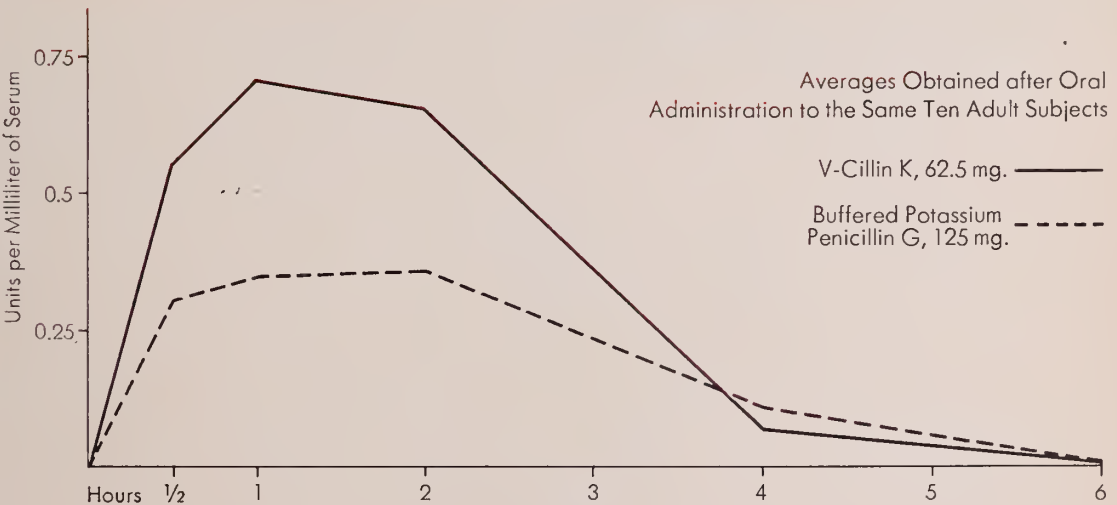
# V-Cillin K<sup>®</sup> provides unexcelled oral antibacterial activity

**because it combines a high degree of in-vitro activity...**

Antibiotic	Staph. Aureus (Penicillin-Sensitive)		Streptococcus, Group A		Diplococcus Pneumoniae	
	MIC (mcg./ml.) Median	Range	MIC (mcg./ml.) Median	Range	MIC (mcg./ml.) Median	Range
Penicillin V	0.02	0.02-0.04	0.02	0.003-0.4	0.01	0.005-0.2
Penicillin G	0.02	0.005-1.6	0.005	0.002-0.2	0.02	0.01-0.1
Methicillin	1.6	0.4-6.3	0.2	0.1-0.4	0.2	0.1-1.6
Oxacillin	0.4	0.1-3.1	0.04	0.02-0.4	0.1	0.04-0.8
Cloxacillin	0.2	0.2-0.8	0.1	0.1-0.8	—	—
Nafcillin	0.4	0.2-0.8	0.04	0.02-0.1	0.02	0.02-0.2
Ampicillin	0.2	0.1-0.8	0.02	0.01-0.04	0.02	0.01-0.04

Adopted from Klein, J. O., and Finland, M.: New England J. Med., 269 1019, 1963.

**with high blood levels, even in the presence of food**



Adopted from Griffith, R. S., and Black, H. R.: Current Ther. Res., 6 253, 1964.

**V-Cillin K<sup>®</sup>**  700157  
**Potassium Phenoxymethyl Penicillin**

(See next page for prescribing information)



# New 500 mg. tablets...a more convenient way to give high doses



**Description:** V-Cillin K is the potassium salt of V-Cillin® (phenoxymethyl penicillin, Lilly). This chemically improved form combines acid stability with immediate solubility and rapid absorption. Higher serum levels are obtained more rapidly with this penicillin than with equal oral doses of penicillin G. The higher serum levels and acid stability of V-Cillin K make it a more dependable penicillin for oral use.

V-Cillin K Pediatric, is an oral solution of clinically proved V-Cillin K in teaspoon dosage form. When mixed as directed, each 5 cc. (approximately one teaspoonful) will contain 125 mg. (200,000 units) phenoxymethyl penicillin as the potassium salt.

**Indications:** V-Cillin K has been shown to be effective in the treatment of streptococcus, pneumococcus, and gonococcus infections as well as infections caused by sensitive strains of staphylococci. It may be used for the prophylaxis of streptococcus infections in patients with a history of rheumatic fever and for the prevention of bacterial endocarditis after tonsillectomy and tooth extraction in those patients with a history of rheumatic fever or congenital heart disease.

**Contraindication:** V-Cillin K should not be administered to a patient with a history of penicillin hypersensitivity.

**Precautions:** V-Cillin K should be used cautiously, if at all, in a patient with a strongly positive history of allergy. Reactions occur more frequently in individuals with bronchial asthma or other allergies or in

those who have previously demonstrated sensitivity to penicillin. If hypersensitivity reactions occur, the drug should be discontinued.

**Adverse Reactions:** Although serious allergic reactions are much less common with administration of oral penicillin than with intramuscular forms, skin rash, symptoms resembling those of serum sickness, or other manifestations of penicillin allergy may occur. When penicillin is administered, measures for treating anaphylaxis should be readily available. Those include epinephrine, oxygen, and pressor drugs for relief of immediate allergic manifestations as well as antihistamines and corticosteroids for delayed effects.

The use of antimicrobial agents may be associated with the overgrowth of antibiotic-resistant organisms; in such a case, antibiotic administration should be stopped and appropriate measures taken.

**Administration and Dosage:** For Tablets V-Cillin K and for V-Cillin K Pediatric, the usual dosage ranges from 125 mg. (200,000 units) three times a day to 500 mg. (800,000 units) every four hours. For infants, the daily dosage may be 50 mg. per Kg. of body weight divided into three doses.

Beta-hemolytic streptococcus infections without associated bacteremia may be treated with 200,000 to 400,000 units three times a day. Therapy should be continued for a minimum of ten days to prevent development of rheumatic fever and/or other serious complications. Dosage for routine streptococcus prophylaxis in patients with a history of rheumatic fever or congenital heart disease may be 200,000 units once or twice daily. When such patients undergo tonsillectomy, tooth extraction, or other minor surgery, the prophylactic dose should be 500,000 units every six hours given two days prior to surgery and for two days postoperatively. If oral medication is not feasible on the day of surgery, parenteral therapy should be considered. Mild to moderately severe pneumococcus pneumonia has been treated effectively with 250 mg. every six hours.

In staphylococcus infections, 400,000 units or more should be given every six to eight hours in conjunction with indicated surgical procedures.

For gonorrhea in males, 500 mg. (800,000 units) every six hours for three doses may be employed; in females, 500 mg. every four hours for six doses are recommended. Patients with a suspected lesion of syphilis should have a dark-field examination before receiving penicillin and monthly serologic tests for a minimum of three months.

**How Supplied:** Tablets V-Cillin K, U.S.P., 125 mg. (200,000 units), in bottles of 50 and 100; 250 mg. (400,000 units), and 500 mg. (800,000 units) in bottles of 24 and 100.

V-Cillin K Pediatric, for Oral Solution, 125 mg. (200,000 units) per 5 cc. of solution, in 40, 80, and 150-cc.-size packages.

Additional information available to physicians upon request. Eli Lilly and Company, Indianapolis, Indiana 46206.

*Lilly*

700157



Togetheress....

...can be rough when epidemics of nausea and vomiting strike a family. Emetrol offers prompt, safe relief. It is free from toxicity<sup>1</sup> or side effects<sup>2,3</sup> and will not mask symptoms of serious organic disorders.

1. Bradley, J. E., *et al.*: *J. Pediat.* 38:41 (Jan.) 1951.
2. Bradley, J. E.: *Mod. Med.* 20:71 (Oct. 15) 1952.
3. Crunden, A. B., Jr., and Davis, W. A.: *Am. J. Obst. & Gynec.* 65:311 (Feb.) 1953.



WILLIAM H. RORER, INC.  
Fort Washington, Pa.

**Emetrol<sup>®</sup>**  
phosphorated carbohydrate  
solution  
**emesis control**

## RENEW YOUR PROFESSIONAL LIABILITY INSURANCE WITH

# INA

(Insurance Company of North America)

**THE ONLY COMPANY ENDORSED BY  
THE OKLAHOMA STATE MEDICAL ASSOCIATION**





*"George wants to know if it's okay to take his cold medicine now, Doctor, instead of seven o'clock?"*





The long-continued action of Novahistine LP should help you both get a good night's sleep. Two tablets in the morning and two in the evening will usually provide round-the-clock relief by helping clear congested air passages for freer breathing. Novahistine LP also helps restore normal mucus secretion and ciliary activity—normal physiologic defenses against infection of the respiratory tract. Use cautiously in individuals with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Caution ambulatory patients that drowsiness may result. Each Novahistine LP tablet contains: phenylephrine hydrochloride, 25 mg., and chlorpheniramine maleate, 4 mg.

## NOVAHISTINE<sup>®</sup> LP



**PITMAN-MOORE** Division of The Dow Chemical Company, Indianapolis



Perhaps there have been times when you wanted to prescribe erythromycin and triple sulfas for little patients. Now you can—with a choice of two new fine-tasting pediatric forms.

# New—Two Pediatric Forms of Erythromycin and Triple Sulfas



## ERYTHROCIN®-SULFAS Chewable

(Erythromycin ethyl succinate-trisulfapyrimidines chewable tablet)

In clinical trials<sup>1,2</sup>, this orange-flavored tablet was given to 55 patients, aged four months to 18 years.

Diagnoses (multiple in some cases) represented a cross section of bacterial infections commonly seen in pediatric office practice.

Therapy was given from three to 12 days, with an average of six days.

Of the 55 patients, 30 were reported cured within 72 hours, while 22 showed partial recovery within the same time, and subsequent clinical cure.

**A clinical cure rate of 94.5%**

1. Case Reports on File, Dept. Clin. Development, Abbott Laboratories.
2. Polley, R.F.L., Use of Erythromycin-Sulfas in Office Practice, Western Med., 7:177, July, 1966.



## ERYTHROCIN®-SULFAS Granules

(Erythromycin ethyl succinate-trisulfapyrimidines granules for oral suspension)

87 patients were treated<sup>1,2</sup>—all children, ages four months to 15 years.

The diagnoses were multiple in some cases and were chiefly bacterial infections of the respiratory tract.

Dosage was maintained from three to 10 days; average treatment was five days. All of the ill children accepted the orange-flavored suspension favorably.

53 were clinically cured within 72 hours, while 32 showed partial relief within the same time, and subsequent clinical cure.

701358

**A clinical cure rate of 97.7%**



Brief  
Summary  
on next  
page



# ERYTHROCIN®-SULFAS

## Brief Summary

**Contraindications:** Known sensitivity to erythromycin or sulfonamides. Because of the possibility of kernicterus with sulfonamides, do not use in pregnancy at term, premature or newborn infants.

**Warnings:** As with other forms of sulfonamide therapy, carefully evaluate patients with liver or kidney damage, urinary obstruction, or blood dyscrasia. Deaths have been reported from hypersensitivity reactions and blood dyscrasias following use of sulfonamides. Perform blood counts and liver and kidney function tests if used repeatedly at close intervals or for long periods.

**Precautions, Side Effects:** Occasionally mild abdominal discomfort, nausea or vomiting may occur with erythromycin, generally controlled by reduction of dosage. Mild allergic reactions (such as urticaria and other skin rashes) may occur. Serious allergic reactions have been extremely infrequent. Use sulfonamides with caution in patients with a history of allergy. Assure adequate fluid intake to prevent crystalluria and institute alkali therapy if indicated. If overgrowth of nonsusceptible organisms occurs, withdraw the drug and institute appropriate treatment. If a patient should show signs of hypersensitivity, appropriate countermeasures (e.g. epinephrine, steroids, etc.) should be administered and the drug withdrawn.

**Adverse Reactions:** Sulfonamide therapy may be associated with headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

Side effects due to erythromycin are infrequent, but occasional abdominal discomfort, nausea, or vomiting, urticaria and other skin rashes may occur.

**Supplied:** The Granules for Oral Suspension come in bottles of 60 ml. and 150 ml. The Chewable tablets are in bottles of 50. Each 5-ml. teaspoonful of reconstituted Granules or each Chewable tablet provides erythromycin ethyl succinate equivalent to 125 mg. of erythromycin activity and 167 mg. of each of sulfadiazine, sulfamerazine and sulfamethazine.

701358



# mudrane®

for

- EMPHYSEMA
- ASTHMA
- CHRONIC BRONCHITIS
- BRONCHIECTASIS

*The  
fast-disintegrating  
uncoated tablet  
gives relief in  
15 minutes*

*Each tablet contains:*

Potassium Iodide.....195 mg.  
Aminophylline.....130 mg.  
Phenobarbital, Caution: May be habit forming... 21 mg.  
Ephedrine HCl.....16 mg.

FEDERAL LAW PROHIBITS  
DISPENSING WITHOUT PRESCRIPTION

**Precautions:** Usual for aminophylline-ephedrine-phenobarbital. Iodides may cause nausea, long use may cause goiter. Discontinue if symptoms of iodism develop.

Iodide contraindications: tuberculosis, pregnancy.

### DOSAGE

One tablet, with full glass of water, 3 or 4 times daily.

*Dispensed in bottles of 100 and 1000 tablets.*

**MUDRANE GG**—Formula, dosage and package identical to Mudrane—*except*—100 mg. glyceryl guaiacolate replaces the potassium iodide. The value of Mudrane cannot be enjoyed by a small group in which K.I. is contraindicated. Mudrane GG is prepared for this group.

**MUDRANE GG ELIXIR**—Four 5 cc teaspoonfuls is equivalent to one Mudrane GG tablet. Dosage adjusted to age and weight of child. Mudrane GG Elixir is for pediatric patients and those who think they cannot swallow tablets. Dispensed in pint and half gallon bottles.

WM. P. POYTHRESS & CO., INC.  
RICHMOND, VIRGINIA 23217

*Manufacturers of ethical pharmaceuticals since 1856*



# There are 25,800\* undetected diabetics in Oklahoma

Most of these are probably among patients over 40; the overweight; relatives of diabetics, and mothers of large babies. By the time polyphagia, polyuria, polydipsia, pruritus or other overt symptoms of diabetes appear, damage may have been done that could have been minimized. DEXTROSTIX® gives you a reliable blood-glucose estimate in 60 seconds.

## Why Wait?



\*Based on Statistical Report, U.S. Dept. Commerce, ed. 86, and Fisher, G. F., and Vavra, H. M.: Pub. Health Rep. 80:961 (Nov.) 1965.

Note: DEXTROSTIX is not meant to replace the more precise analytical laboratory procedures such as needed in glucose tolerance testing.

AMES COMPANY, Division Miles Laboratories, Inc., Elkhart, Indiana, U.S.A. 42957



**Ames**

# New low-cost tetracycline/antifungal therapy

for broad-spectrum activity  
plus specific antifungal prophylaxis  
at significant patient savings

Whenever tetracycline is indicated in these candidates for Candida:

1. diabetic patients



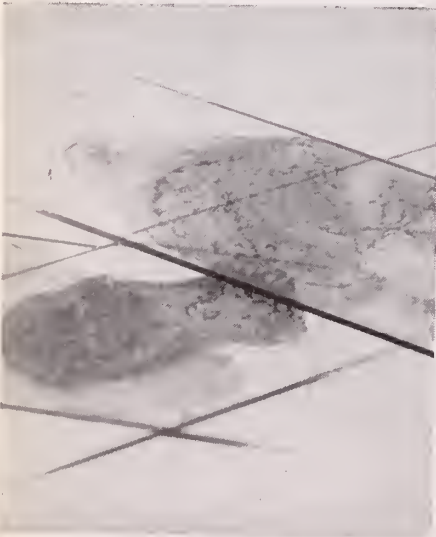
2. nonpregnant women with a history of recent or recurrent monilial vaginitis



3. elderly or debilitated patients



4. patients with a past history of moniliasis



5. patients on long-term tetracycline or corticosteroid therapy



**PRESCRIBING INFORMATION.** For complete information consult Official Package Circular. **Indications:** Infections of respiratory, gastrointestinal and genitourinary tracts and skin and soft tissues due to tetracycline-sensitive organisms, in patients with increased susceptibility to monilial infections. **Contraindications:** The drug is contraindicated in patients hypersensitive to its components. **Warnings:** Photodynamic reactions have been produced by tetracyclines. Natural and artificial sunlight should be avoided during therapy. Stop treatment if skin discomfort occurs. With renal impairment, systemic accumulation and hepatotoxicity may occur. In this situation, lower doses should be used. Tooth staining and enamel hypoplasia may be induced during tooth development (last trimester of pregnancy, neonatal period and childhood.) **Precautions:** Bacterial superinfections may occur. Infants may develop increased intracranial pressure with bulging fontanels. In gonorrheal therapy, serologic tests for syphilis should be conducted initially and monthly for 3 months. **Adverse Reactions:** Glossitis, stomatitis, nausea, diarrhea, flatulence, proctitis, vaginitis, dermatitis, and allergic reactions may occur. **Usual Adult Dosage:** 1 capsule q.i.d. Continue for 10 days in Beta-hemolytic streptococcal infections. Administer one hour before or two hours after meals. **Supplied:** Capsules, bottles of 16 and 100. Each capsule contains tetracycline phosphate complex equivalent to 250 mg. tetracycline HCl activity and 250,000 units of nystatin. For Oral Suspension, 125 mg. tetracycline and 125,000 u. nystatin/5 ml., 60 ml. bottles.

**BRISTOL**

BRISTOL LABORATORIES  
Division of Bristol-Myers Company  
Syracuse, New York

# Tetrex-F®

Each capsule contains tetracycline phosphate complex equivalent to tetracycline hydrochloride 250 mg. and nystatin 250,000 units.





"Livingston... vertigo is my doom!"  
Cried Stanley in his doctor's room.



Said the doc, "For your ills  
I've got just the pills."



Said Stan,  
"Antivert, I presume."



## Antivert® stops vertigo (meclizine HCl, niacin)

Tablets: (meclizine HCl 12.5 mg. and niacin 50 mg.) Syrup: (each 5 cc. teaspoonful contains meclizine HCl 6.25 mg. and niacin 25 mg.)

**Most widely prescribed anti-vertigo agent<sup>1</sup>**  
**Complete to moderate relief of symptoms in 9 out of 10 patients<sup>2</sup>**

Antivert, the leading anti-vertigo product,<sup>1</sup> combines meclizine HCl, an outstanding drug for treatment of vestibular dysfunction, with niacin, a drug of choice for prompt vasodilation. Prescribe Antivert for your patients with vertigo, Meniere's syndrome and allied disorders.

**Precautions and contraindications:** Frequent, short-lived reactions include: cutaneous flushing, sensations of warmth, tingling and itching, burning of skin, increased gastrointestinal motility, and sebaceous gland activity. In explaining these reactions to the patient, it is suggested that they be regarded as a desirable physiological sign that the niacin is carrying out its intended function of vasodilation. Because of this vasodilation, severe hypotension and hemorrhage are obvious contraindications to Antivert therapy. Although the incidence of drowsiness and other atropine-like side effects such as dry mouth and blurring of vision is low, the physician should alert the patient to the need for due precautions when en-

gaging in activities where alertness is mandatory. Use in women of childbearing age: A review of available animal data reveals that meclizine exerts a teratogenic response in the rat. In one study a dose of 50 mg./kg./day (50 times the maximum recommended human dose) produced cleft palate in 2 of 87 fetuses when administered to the rat at critical times during the first 15 days of gestation. At doses of 125 mg./kg./day, meclizine will produce 100% incidence of cleft palate in the rat. At doses of 25 mg./kg./day, decreased calcification of the vertebrae and relative shortening of the limbs were also produced in the rat, but experts disagree as to whether this is a teratogenic response. While available clinical data are inconclusive, scientific experts are of the opinion that this drug may possess a potential for adverse effects on the human fetus. Consequently, consideration should be given to initial use of a nonphenothiazine agent that is not suspected of having a teratogenic potential. In any case, the dosage and duration of treatment should be kept to a minimum. **Dosage:** One tablet or one to two teaspoonfuls (5-10 cc.) t.i.d. just before meals. Specific requirements for individual patients should be determined by the physician. **Supplied:** Tablets in bottles of 100 and 500. Syrup in pint bottles. RX only.

**References:** 1. Based on 1966 data from independent physicians' market survey organization. 2. Scal, J. C.: Eye Ear Nose & Throat Month. 38:738 (Sept.) 1959.

## Neobon® geriatric supplement helps keep them 'on the go'

Each capsule contains:

<b>(1) Vitamins and Minerals</b>	
Vitamin A (acetate)	2000 U.S.P. units
Vitamin D (ergocalciferol, U.S.P.)	200 U.S.P. units
Vitamin B <sub>1</sub> (thiamine mononitrate, U.S.P.)	0.5 mg.
Vitamin B <sub>2</sub> (riboflavin, U.S.P.)	0.5 mg.
Vitamin B <sub>6</sub> (pyridoxine HCl, U.S.P.)	0.5 mg.
Niacinamide, U.S.P.	50 mg.
Calcium pantothenate, U.S.P.	5 mg.
Vitamin E (di-alpha tocopheryl acetate)	5 I.U.
Rutin	5 mg.
Cobalt (from cobalt sulfate)	0.033 mg.
Molybdenum (from sodium molybdate)	0.066 mg.
Copper (from copper sulfate)	0.33 mg.
Manganese (from manganese sulfate)	0.33 mg.
Magnesium (from magnesium sulfate)	2 mg.
Iodine (from potassium iodide)	0.05 mg.
Potassium (from potassium sulfate)	1.66 mg.
Zinc (from zinc sulfate)	0.4 mg.
<b>(2) Hematopoietic Factors</b>	
Iron (from ferrous sulfate)	3.40 mg.
Vitamin B <sub>12</sub> (cobalamin concentrate, N.F., as Tablets*)	1 mcg.
Vitamin C (ascorbic acid, U.S.P.)	50 mg.
<b>(3) Digestive Enzyme</b>	
Pancreatic substance*	50 mg.
<b>(4) Gonadal Hormones</b>	
Methyltestosterone, N.F.	1.0 mg.
Ethinyl Estradiol, U.S.P.	0.006 mg.
<b>(5) Amino Acids</b>	
L-lysine (monohydrochloride)	50 mg.
L-Glutamic acid	30 mg.

\*Enzymatically active defatted material obtained from 250 mg. of whole fresh pancreas.

For older adults who require it, daily supplementation with Neobon can help overcome decreases in endogenous gonadal hormone production, as well as deficiencies of iron, vitamins and other nutritional factors. In a single convenient capsule, Neobon provides vitamins, minerals, gonadal hormones, hematopoietic factors, digestive enzymes, and amino acids—all selected for adjunctive therapeutic value in the geriatric syndrome. For example, one of the gonadal hormones in Neobon is ethinyl estradiol. It is more slowly metabolized in the body than natural estrogens or their esters.

**Precautions:** Contraindicated in patients in whom estrogen or androgen therapy should not be used, as in carcinoma of the breast or prostate.

**Dosage:** One capsule, t.i.d. with meals, or as directed by physician.

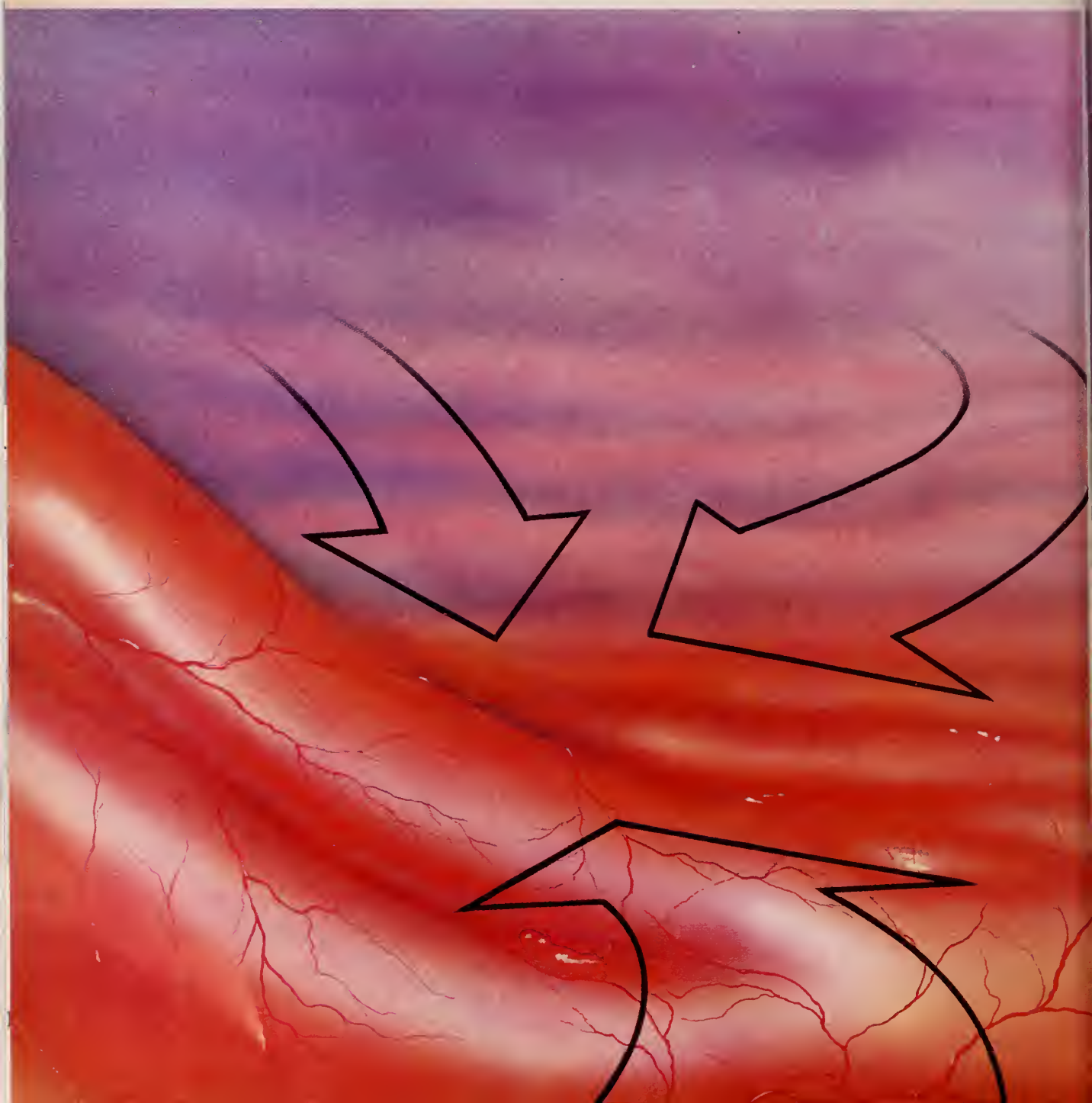
**Supplied:** Bottles of 60 capsules. Rx only.



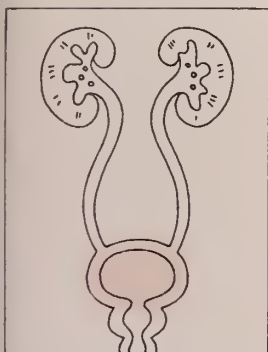
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CHAS. PFIZER & CO., INC.  
NEW YORK, N.Y. 10017

# The battle with bacteria: cystitis

Artist's conception of cystoscopic view of bladder showing congested blood vessels and edema around ureteral orifice.



# consider Gantanol (sulfamethoxazole)



**For vigorous treatment of G.U. infections before the invaders become entrenched...**

Gantanol (sulfamethoxazole) offers a comprehensive spectrum of antibacterial effectiveness against most common gram-negative as well as gram-positive invaders. In addition, it provides satisfactory concentrations in

the blood and urine with ready diffusion into interstitial fluids for antibacterial activity at foci of bacterial invasion.

**High antibacterial activity against *E. coli* and other common urinary pathogens...** A review of 153 cases of acute G.U. infections reported in the literature shows that

90% responded to Gantanol (sulfamethoxazole), with over one-half of these patients showing excellent relief of symptoms.<sup>1,2</sup> Even in stubborn chronic G.U. infections, almost 60% of 450 patients improved on Gantanol (sulfamethoxazole), including many who had not responded to other antibacterials.<sup>1-6</sup>

**Generally uncomplicated therapy enhances the favorable clinical results...** Of the total 686 patients from the studies cited,<sup>1-6</sup> only three discontinued therapy because of side effects. Most of the side effects reported (approximately 3%) were mild and included nausea and/or vomiting, skin rash, dizziness, headache, gastritis, generalized uneasiness and itching.<sup>1-6</sup>

1. Peters, J. H.: *J. Urol.*, 87:747, 1962. 2. Draper, J. W., et al.: *South. M. J.*, 57:920, 1964. 3. Stewart, B. L.: *J. Urol.*, 87:491, 1962. 4. Hagstrom, R. S.: *Rocky Mountain M. J.*, 59:(2), 37, 1962. 5. Arnold, J. H.: *Clin. Med.*, 71:552, 1964. 6. Nelson, C. G.: *Colorado GP*, 3:(3), 2, 1961.

Before prescribing, please consult complete product information, a summary of which follows:

**Contraindicated** in sulfonamide-sensitive patients, pregnant females at term, premature infants, or newborn infants during first three months of life.

**Warnings:** Use only after critical appraisal in patients with liver damage, renal damage, urinary obstruction or blood dyscrasias. If toxic or hypersensitivity reactions or blood dyscrasias occur, discontinue therapy. In intermittent or prolonged therapy, blood counts and liver and kidney function tests should be performed.

**Precautions:** Observe usual sulfonamide therapy precautions, including maintenance of an adequate fluid intake. Use with caution in patients with histories of allergies and/or asthma. Patients with impaired renal function should be followed closely since renal impairment may cause excessive drug accumulation. Occasional failures may occur due to resistant microorganisms. Not effective in virus or rickettsial infections.

**Adverse Reactions:** Headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, Stevens-John-

son syndrome, injection of the conjunctiva and sclera, petechiae, purpura, hematuria or crystalluria may occur, in which case the dosage should be decreased or the drug withdrawn.

**Dosage:** Adults—4 tablets initially, then 2 tablets b.i.d. or t.i.d. depending upon severity of infection. Children—1 tablet/20 lbs initially, followed by ½ tablet/20 lbs b.i.d.

**How Supplied:** Tablets, 0.5 Gm, bottles of 50.

**Roche Laboratories**

Division of Hoffmann-La Roche Inc.  
Nutley, New Jersey 07110



**when there are bacterial invaders  
in the bladder, prostate or kidneys**

***Gantanol***<sup>®</sup>  
*(sulfamethoxazole)*



Everyone says she's a barrel of fun



But what does she think?



**Many overweight patients  
can benefit from the appetite  
control provided by the sustained  
anorexigenic-tranquilizing  
action of BAMADEX SEQUELS:  
anorexigenic action of  
amphetamine; tranquilizing  
action of meprobamate;  
prolonged action through  
sustained release of  
active ingredients.**

## **Bamadex® Sequels®**

DEXTRO-AMPHETAMINE SULFATE (15 mg.) SUSTAINED RELEASE CAPSULES  
WITH MEPROBAMATE (300 mg.)

**to help establish  
a new dietary pattern**

**Contraindications:** Dextro-amphetamine sulfate: in hyperexcitability and in agitated prepsychotic states. Previous allergic or idiosyncratic reactions to meprobamate.

**Precautions:** Use with caution in patients hypersensitive to sympathomimetic compounds, who have coronary or cardiovascular disease, or are severely hypertensive.

Dextro-amphetamine sulfate: Excessive use by unstable individuals may result in psychological dependence.

Meprobamate: Careful supervision of dose and amounts prescribed is advised, especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence on the drug. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of preexisting symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dosage and avoid operation of motor vehicles, machinery or other activity requiring alertness. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

**Side Effects:** Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness.

Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.

Meprobamate: Drowsiness may occur and can be associated with ataxia; the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculopapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.



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## The Mediatrix Age:

There is a growing senescent body of people on their way to malignant inactivity, who sorely need your interest and direction to help them back to a more active and useful life. There are medicines too, designed to help. One such has proved useful in clinical practice.

*"A steroid-nutritional compound (Mediatrix) was used in 100 patients to relieve some of the symptoms caused by degenerative changes of aging . . . This therapy resulted in improvement of 75 per cent of the patients . . ."*

McNeill, A. J.: Clin. Med. 8:518 (Mar.) 1961.

*"Mediatrix (steroid-nutritional compound) capsules, one a day, seem to give definite help to debilitated patients."*

Arnold, E. T., Jr.: Geriatrics 12:612 (Oct.) 1957.

*"Nutritional and hormone bolstering of function in the aged may have a useful place in geriatrics."*

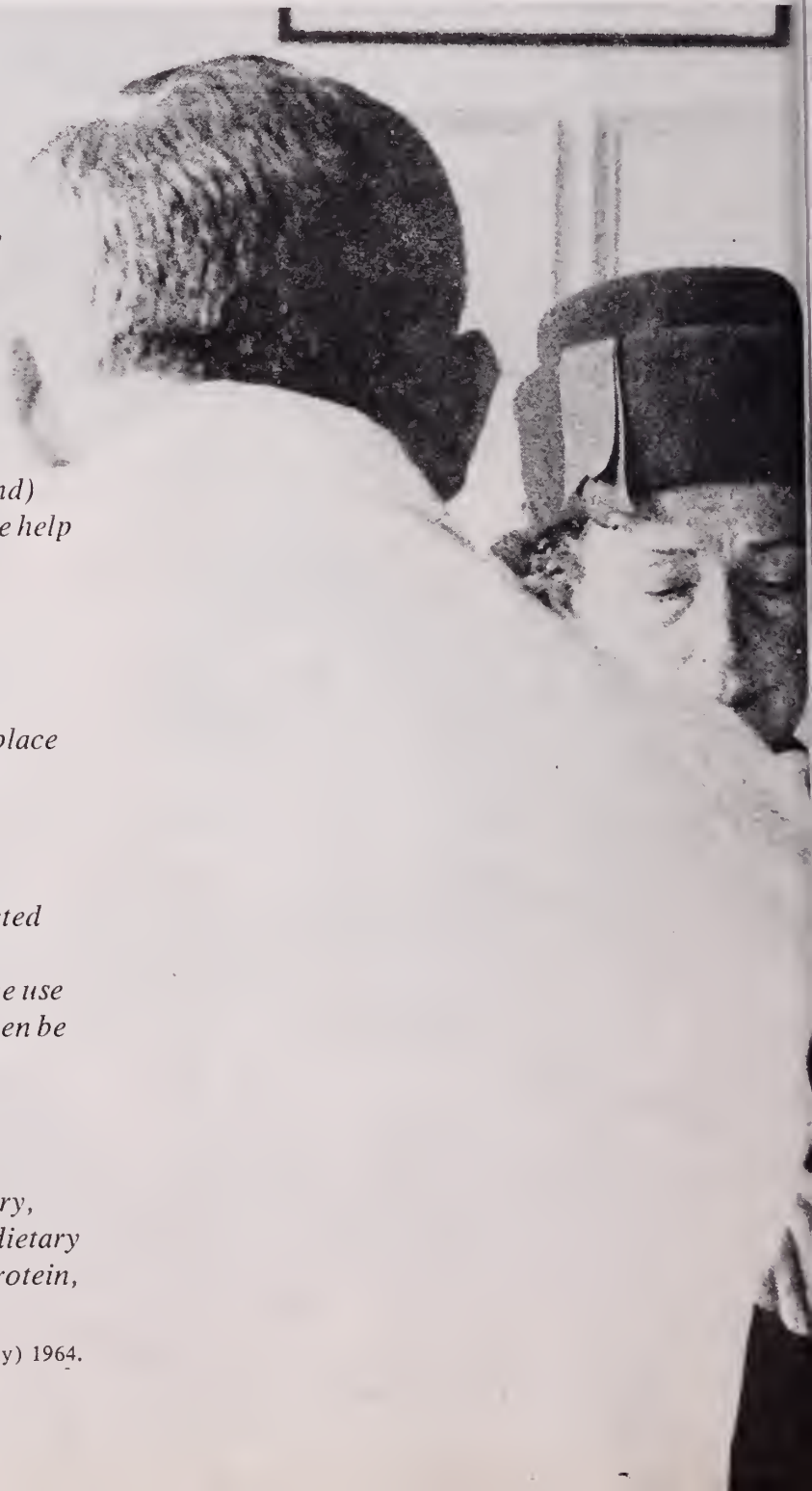
Morgan, A. F.: Gerontologist 2:77 (June) 1962.

*"In diets which for any reason are restricted in calories, enough of these substances (B vitamins) may not be supplied . . . The use of B and C vitamin supplements may then be justified and indeed may be necessary."*

Morgan, A. F.: Gerontologist 2:77 (June) 1962.

*"Intensive nutritional therapy is necessary, especially in elderly people, to correct dietary deficiencies created by large losses of protein, vitamins and other nutrients."*

Riccitelli, M. L.: J. Am. Geriatrics Soc. 12:489 (May) 1964.





# Mediatric®

Designed for the “metabolically spent”

Nutritional reinforcement for those who can't — or won't — eat properly...balanced amounts of estrogen and androgen to counteract declining gonadal hormone secretion and its sequelae of premature degenerative changes...mild antidepressant for a gentle “mood” uplift...

The estrogen component in MEDIATRIC is **PREMARIN®** (conjugated estrogens—equine), the natural estrogen most widely prescribed for its superior physiologic and metabolic benefits.

MEDIATRIC also provides *nutritional reinforcement—blood-building factors and vitamin supplementation*. It contributes a gentle “mood” uplift through methamphetamine HCl.

Three different dosage forms—Liquid, Tablets, and Capsules—offer convenience and variety.

### MEDIATRIC Liquid

Each 15 cc. (3 teaspoonfuls) contains:

*Conjugated estrogens—equine (Premarin®) .....	0.25 mg.
Methyltestosterone .....	2.5 mg.
Thiamine HCl .....	5.0 mg.
Cyanocobalamin .....	1.5 mcg.
Methamphetamine HCl .....	1.0 mg.

Contains 15% alcohol

### MEDIATRIC Tablets and Capsules

Each MEDIATRIC Tablet or Capsule contains:

*Conjugated estrogens—equine (Premarin®) .....	0.25 mg.
Methyltestosterone .....	2.5 mg.
Ascorbic acid .....	100.0 mg.
Cyanocobalamin .....	2.5 mcg.
Intrinsic factor concentrate .....	8.0 mg.
Thiamine mononitrate .....	10.0 mg.
Riboflavin .....	5.0 mg.
Niacinamide .....	50.0 mg.
Pyridoxine HCl .....	3.0 mg.
Calc. pantothenate .....	20.0 mg.
Ferrous sulfate exsic. ....	30.0 mg.
Methamphetamine HCl .....	1.0 mg.

\*Orally active, water-soluble conjugated estrogens derived from pregnant mares' urine and standardized in terms of the weight of active, water-soluble estrogen content.

MEDIATRIC helps keep the older patient alert and active; helps relieve general malaise, easy fatigability, vague pains in the bones and joints, loss of appetite, and lack of interest usually associated with declining gonadal hormone secretion.

**CONTRAINDICATION:** Carcinoma of the prostate, due to methyltestosterone component.

**WARNING:** Some patients with pernicious anemia may not respond to treatment with the Tablets or Capsules, nor is cessation of response predictable. Periodic examinations and laboratory studies of pernicious anemia patients are essential and recommended.

**SIDE EFFECTS:** In addition to withdrawal bleeding, breast tenderness or hirsutism may occur.

**SUGGESTED DOSAGES:** *Male and female:* 3 teaspoonfuls of Liquid, 1 Tablet, or 1 Capsule, daily or as required.

*In the female:* To avoid continuous stimulation of breast and uterus, cyclic therapy is recommended (3 week regimen with 1 week rest period—Withdrawal bleeding may occur during this 1 week rest period).

*In the male:* A careful check should be made on the status of the prostate gland when therapy is given for protracted intervals.

**SUPPLIED:** No. 910 — MEDIATRIC Liquid, in bottles of 16 fluidounces and 1 gallon. No. 752 — MEDIATRIC Tablets, in bottles of 100 and 1,000. No. 252 — MEDIATRIC Capsules, in bottles of 30, 100, and 1,000.



**Mediatric®**  
steroid-nutritional compound



announcing  
important dosage  
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Norin

(norethindrone 1mg.  $\bar{c}$  mestranol 0.05mg.)

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to patients

# myl-1<sup>®</sup>

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norethindrone — an original steroid from

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## Vasomist

(ANTIHISTAMINIC)  
VASOCONSTRICTOR,  
NASAL DECONGESTANT AND  
LOCAL ANTIHISTAMINIC

Active Ingredients:  
Phenylephrine Hcl ..... 0.25%  
Phenylpropanolamine Hcl .. 0.50%  
Chlorobutanol ..... 0.15%  
Triphenylamine Hcl ..... 0.50%  
In Isotonic Solution

USE: Temporary relief of nasal congestion due to colds and hay fever.  
DIRECTIONS: Adults and Children: Instill two or three drops into each nostril, using no more than needed to provide relief. Repeat every three to four hours as needed but not oftener.

### AVAILABILITY

In plastic squeeze bottles containing ¼ fluid oz. and in dropper bottles containing 1 fluid oz.

HUMCO LABORATORY  
TEXARKANA, ARK.-TEX.

## Vasomist

(PLAIN)

VASOCONSTRICTOR AND NASAL  
DECONGESTANT

Active Ingredients:  
Phenylephrine Hcl ..... 0.25%  
Phenylpropanolamine Hcl ... 0.50%  
Chlorobutanol ..... 0.15%  
In Isotonic Solution

*When the problem  
is only skin deep*

## USE 'POLYSPORIN'<sup>®</sup> brand POLYMYXIN B-BACITRACIN OINTMENT

for topical antibiotic therapy with minimum  
risk of sensitization

Caution: As with other antibiotic products, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

Supplied in ½ oz. and 1 oz. tubes.

Complete literature available on request from Professional Services Dept. PML.



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*Specializing in the diagnosis and  
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## The JOURNAL

of the Oklahoma State Medical Association

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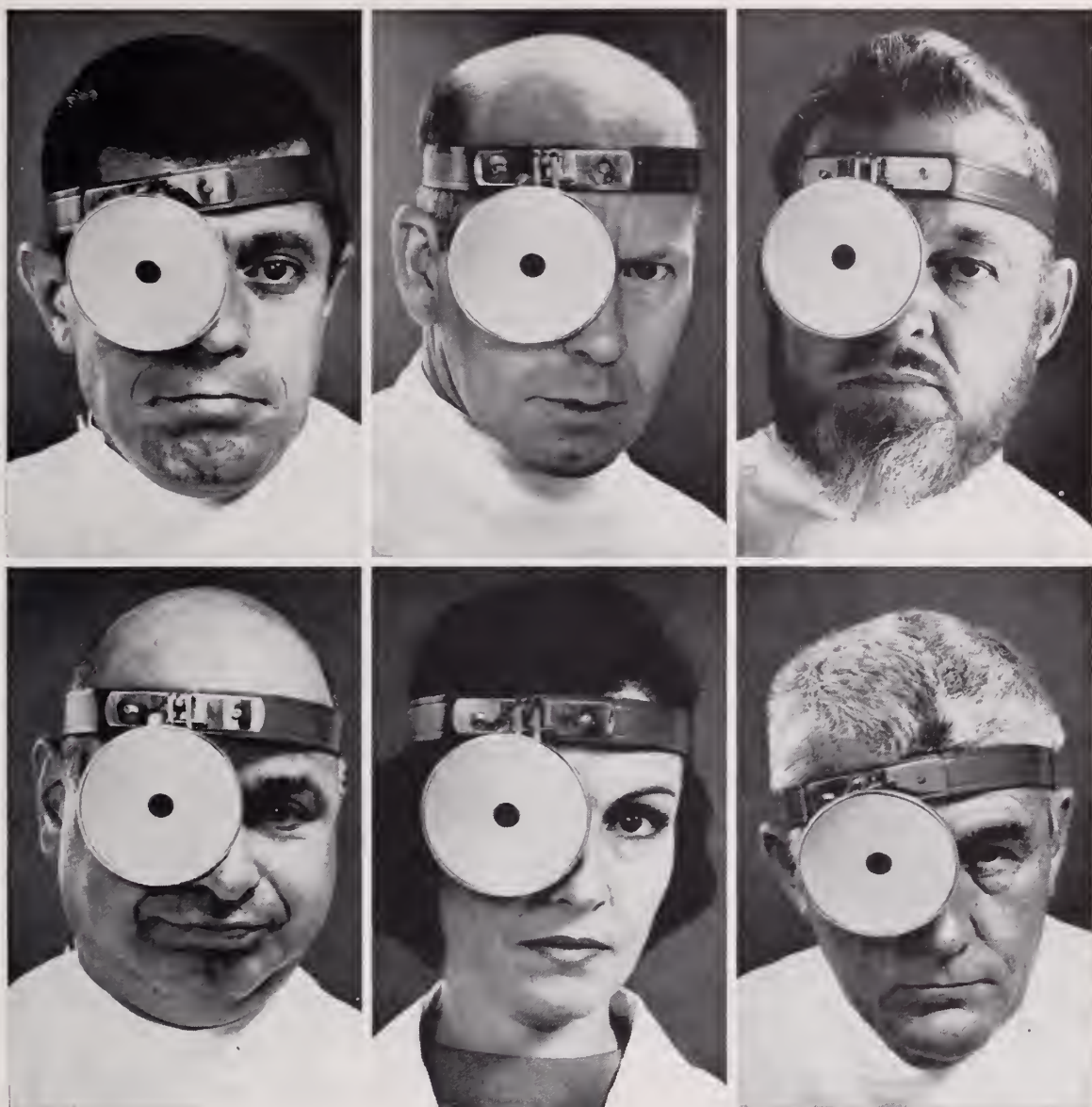
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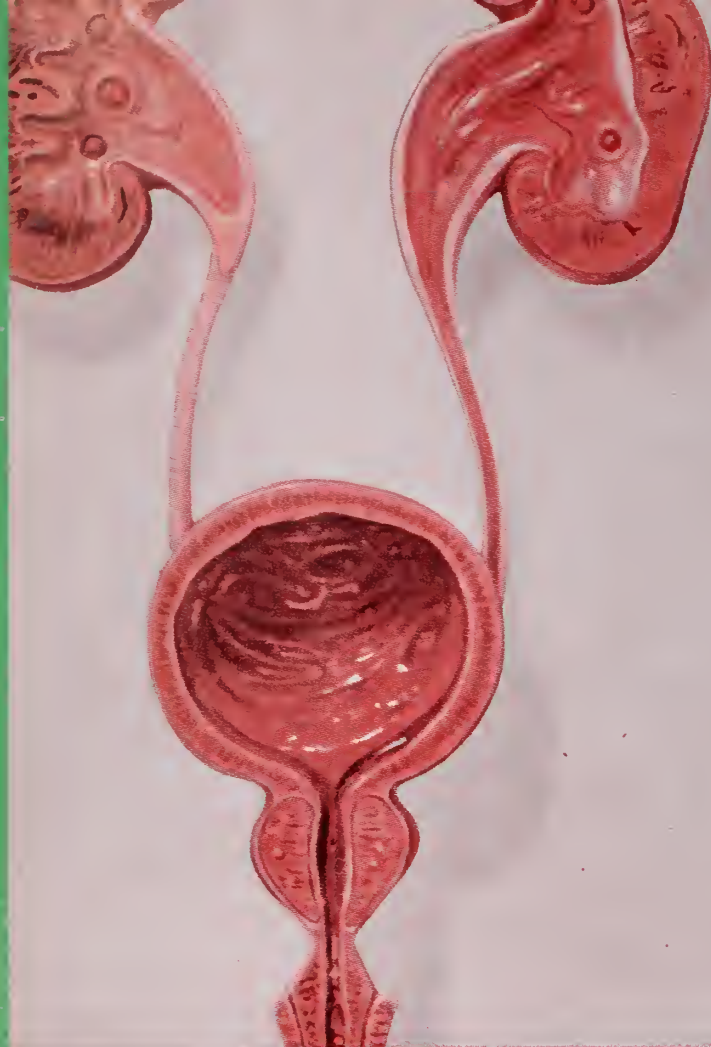
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## Diagnosis:

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pyelitis?  
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**in any case,  
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**eradicates most urinary  
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\*As many as 9 out of 10 urinary tract infections are now caused by gram-negative organisms: *E. coli*, *Klebsiella*, *Aerobacter*, *Proteus*, *Paracolon* or *Pseudomonas*<sup>2</sup>... However, infections of the urethra and prostate caused by non-gonococcal gram-negative organisms are believed to be less prevalent.

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The
**JOURNAL**

MAY  
1967  
Vol. 60, No. 5

of the Oklahoma State Medical Association

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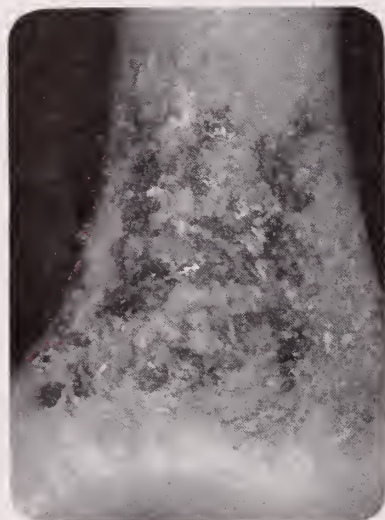
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*Precautions and Side Effects:* Do not use in the eyes or in the ear (if drum is perforated). A few individuals react unfavorably under certain conditions. If side

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406 G

A large, dark, grainy microscopic image showing numerous spermatozoa with long, wavy tails. In the upper left corner, there is a smaller, rectangular inset showing a different view of the same or similar material, with a more granular, textured appearance.

# New view of an oral contraceptive at work

Although suppression of ovulation remains the primary mode of action of oral contraceptives, newer knowledge indicates that products like Norinyl-1 — which provide the combined action of both low-dosage progestogen and estrogen for the full treatment cycle — offer multiple contraceptive action that helps explain their unexcelled record of effectiveness. This report explores the secondary protective mechanisms against unwanted pregnancy offered by combined hormonal administration and the importance of the progestational agent in making such multiple contraceptive action possible.

Accumulating evidence has indicated that sparse, highly viscous cervical mucus has an adverse effect on the motility and survival of spermatozoa.

The estrogen-opposing progestational ingredient of Norinyl-1 (norethindrone 1 mg. with mestranol 0.05 mg.) reverses the usual mid-cycle picture of a thin, watery cervical mucus. The result — a built-in barrier that inhibits sperm from reaching the ovum should one be released. The inset in the adjoining photograph shows immobile spermatozoa as they appear in cervical mucus taken from a patient treated with Norinyl-1.



# How the estrogen-opposing action of Norinyl-1 creates a hostile cervical mucus

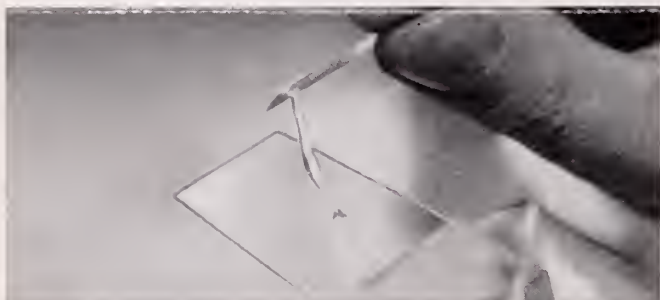
Normally estrogen activity during the fertile midcycle stimulates the production of cervical mucus. The mucus at this time is profuse and watery — allowing maximum sperm motility and promoting penetration.

But what happens when Norinyl-1 is administered? Its potent progestogen, norethindrone, opposes estrogen stimulation of cervical mucus. Consequently, the amount of mucus decreases and its viscosity increases. This results in a sparse but thick mucus barrier that diminishes the vitality of the sperm and impairs its powers of penetration.

## How hostile cervical mucus supports contraceptive action

The importance of these observations to the effectiveness of Norinyl-1 has been noted in a report on 89 patients taking this medication.\* In all instances, cervical mucus obtained from cycle day 5 to cycle day 29 appeared scant and thick and exhibited little or no Spinnbarkeit. In the opinion of this investigator, the effect on cervical mucus may be sufficient to prevent conception. \*Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965.

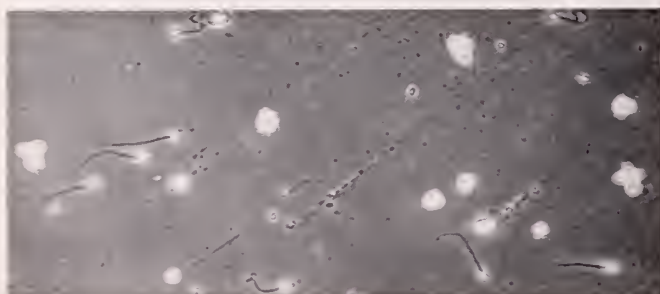
**Normal cervical mucus at midcycle in untreated patient permits sperm motility... promotes sperm penetration.**



Cervical mucus is thin and watery with a stretchability (Spinnbarkeit) of 15 to 20 cm.



Thin, watery mucus crystallizes into this well-defined, fernlike pattern within a minute.

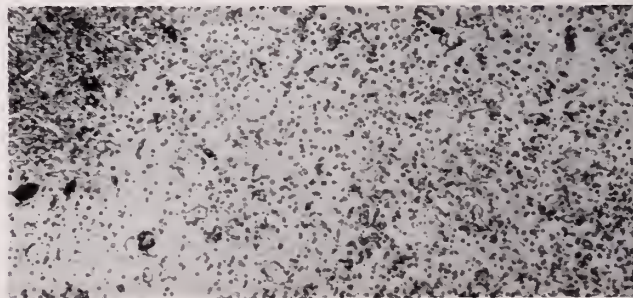


Spermatozoa appear healthy, are active and freemoving.

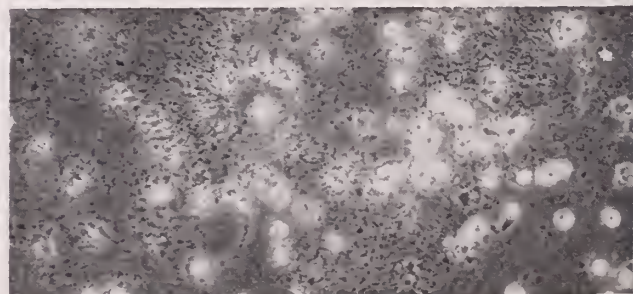
**Hostile cervical mucus at midcycle produced by Norinyl-1 impairs sperm vitality... inhibits penetration.**



Cervical mucus is scanty, thick and viscous. Spinnbarkeit is 1 cm. or less.



In thick, hostile cervical mucus the fern pattern is poorly defined or absent.



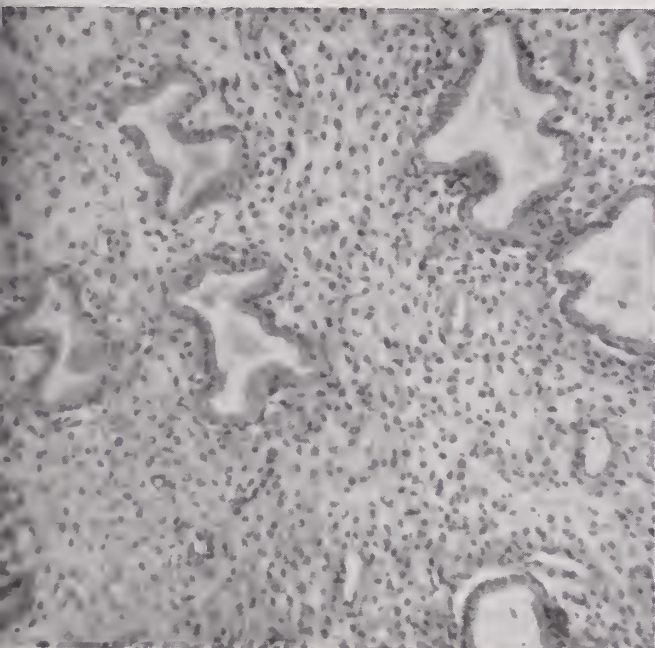
Immobile spermatozoa as they appear in cervical mucus taken from a patient treated with Norinyl-1.



# An endometrium unreceptive to nidation—another supporting contraceptive action of Norinyl-1

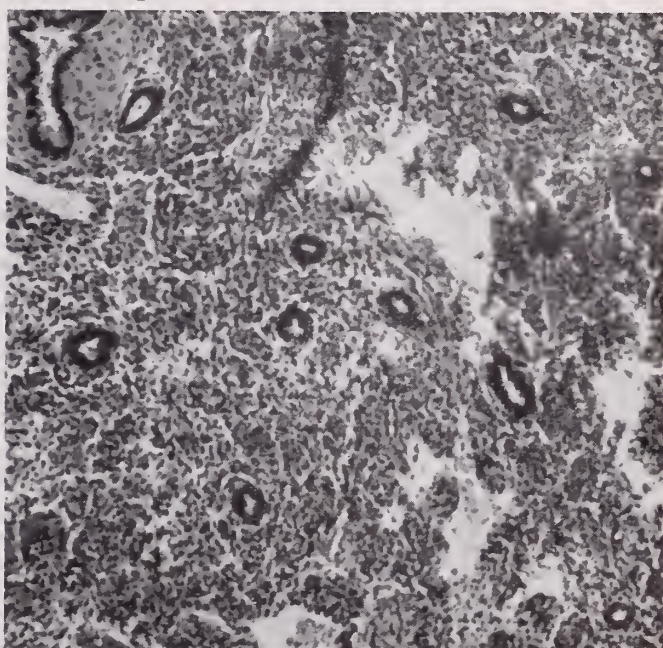
Let us suppose that an ovum is released—as occurs in an occasional, rare case—and somehow a sperm succeeds in penetrating the cervical mucus barrier? Should this come about, one additional action of Norinyl-1 may protect the patient from unwanted pregnancy—progesterone intake makes endometrial tissue unreceptive to implantation.

Endometrium of untreated patient



Normally the endometrium progresses through a proliferative phase stimulated by estrogen and a secretory phase stimulated by progesterone. During the secretory phase the endometrium is receptive to the fertilized ovum.

Unreceptive endometrium produced by Norinyl-1



When Norinyl-1 is administered its progesterone component—norethindrone—accelerates the secretory phase, suppressing glandular development. From day 11 on, secretory action is no longer present. The result is that during the latter half of the cycle the endometrium becomes unreceptive to egg implantation.

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**Norinyl-1**  
(norethindrone 1mg  $\bar{c}$  mestranol 0.05mg) **tablets**

# for multiple contraceptive action

effective fertility control  
on half the previous dosage  
maintains ratio  
of the established  
norethindrone/mestranol  
combination  
lower cost

**new**  
**Norinyl-1**  
(norethindrone 1mg.  $\bar{c}$  mestranol 0.05mg.) **tablets**

Reduction of oral contraceptive dosage to lowest effective levels has become a well-accepted principle of conservative medical practice. In keeping with this view, Norinyl is now available in a new strength in which both norethindrone and mestranol are reduced 50 percent. Studies show that Norinyl-1 achieves fertility control with only 1.05 mg. of combined progestogen and estrogen per tablet.

Norethindrone was first reported for use as a progestational agent in human beings in 1955. Norethindrone 2 mg. with mestranol 0.1 mg., as an oral contraceptive, is currently in use by over 2,000,000 women. Clinical experience now establishes that Norinyl-1 also amply meets the criteria of reliability and safety.\*

\*Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965.

## PRESCRIBING INFORMATION

**Contraindications:** 1. Patients with thrombophlebitis or with a history of thrombophlebitis or pulmonary embolism. 2. Liver dysfunction or disease. 3. Patients with known or suspected carcinoma of the breast or genital organs. 4. Undiagnosed vaginal bleeding.

**Warnings:** 1. Discontinue medication pending examination if there is sudden partial or complete loss of vision or if there is a sudden onset of proptosis, diplopia, or migraine. If examination reveals papilledema or retinal vascular lesions, medication should be withdrawn. 2. Since the safety of Norinyl-1 in pregnancy has not been demonstrated, it is recommended that for any patient who has missed two consecutive periods, pregnancy should be ruled out before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule, the possibility of pregnancy should be considered at the time of the first missed period. 3. Detectable amounts of the active ingredients in oral contraceptives have been identified in the milk of mothers receiving these drugs. The significance of this dose to the infant has not been determined.

**Precautions:** 1. The pretreatment physical examination should include special reference to breast and pelvic organs, as well as a Papanicolaou smear. 2. Endocrine and possibly liver function tests may be affected by treatment with Norinyl-1. Therefore, if such tests are abnormal in a patient taking Norinyl-1, it is recommended that they be repeated after the drug has been withdrawn for 2 months. 3. Under the influence of estrogen-progestogen preparations, preexisting uterine fibroids may increase in size. 4. Because these agents may cause some degree of fluid retention, conditions that may be influenced by this factor, such as epilepsy, migraine, asthma, cardiac, or renal dysfunction, require careful observation. 5. Although a cause and effect relationship has not been established, Norinyl-1 should be used with caution in patients with a history of cerebrovascular accident. 6. In relation to breakthrough bleeding, as in all cases of irregular bleeding per vaginam, nonfunctional causes should be borne in mind. In cases of undiagnosed vaginal bleeding, adequate diagnostic measures are

indicated. 7. Patients with a history of psychic depression should be carefully observed and the drug discontinued if the depression recurs to a serious degree. 8. Any possible influence of prolonged Norinyl-1 therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study. 9. A decrease in glucose tolerance has been observed in a small percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be carefully observed while receiving Norinyl-1 therapy. 10. Because of the occasional occurrence of thrombophlebitis and pulmonary embolism in patients taking oral contraceptives, the physician should be alert to the earliest manifestations of the disease. A cause and effect relationship has not been demonstrated. 11. Because of the effects of estrogens on epiphyseal closure, Norinyl-1 should be used judiciously in young patients in whom bone growth is not complete. 12. The age of the patient constitutes no absolute limiting factor, although treatment with Norinyl-1 may mask the onset of the climacteric. 13. The pathologist should be advised of Norinyl-1 therapy when relevant specimens are submitted.

**Side Effects:** The following adverse reactions have been observed with varying incidence in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms, breakthrough bleeding, spotting, change in menstrual flow, amenorrhea, edema, chloasma, breast changes (tenderness, enlargement and secretion), loss of scalp hair, change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately postpartum, cholestatic jaundice, erythema multiforme, erythema nodosum, hemorrhagic eruption, migraine, rash (allergic), itching, rise in blood pressure in susceptible individuals, mental depression.

The following occurrences have been observed in users of oral contraceptives. A cause and effect relationship has not been established: thrombophlebitis, pulmonary embolism, neuroocular lesions.

The following laboratory results may be

altered by the use of oral contraceptives: increased bromsulphalein retention and other hepatic function tests, coagulation tests (increase in prothrombin, factors VII, VIII, IX and X), thyroid function (increase in PBI and butanol extractable protein-bound iodine and decrease in  $T^3$  values), metapyrone test, pregnandiol determination.

Other side effects reported to have occurred in association with use of this drug are dizziness, hirsutism, pains in legs, back, chest and abdomen, dysuria, drowsiness, vaginal discharge, libido increased and decreased, eruptions, hypermenorrhea, hypomenorrhea, increased appetite, G.U. infections, varicose veins, abdominal fullness, acne, headache, nervousness, allergies, blurred vision, pain in eyes, and itching in eyes. For complete clinical data, see package insert.

**Dosage and Administration:** 1. One tablet of Norinyl-1 is administered orally for 20 days, beginning on day 5 of the menstrual cycle (Count day 1 of the cycle as the first day of menstrual bleeding.) Repeat this dosage schedule for each cycle. 2. If no menstrual period occurs after a cycle of treatment (20 tablets) in which patient adhered to the schedule, the patient must be instructed to resume taking the Norinyl-1 tablets 7 days after the previous 20 day course was completed. For example, if the last pill of a previous cycle had been taken on a Sunday, then a new cycle of treatment should begin on the following Sunday. 3. In the postpartum woman, it is recommended that the first cycle of treatment should begin on day 1 of the first menstrual cycle. However, Norinyl-1 should not be administered during lactation.

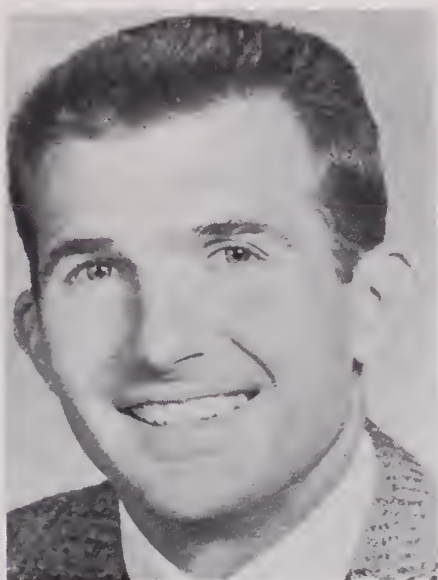
**Availability:** Norinyl-1 (norethindrone 1 mg. with mestranol 0.05 mg.)—Dispensers of 20 and 60 and bottles of 250 tablets.

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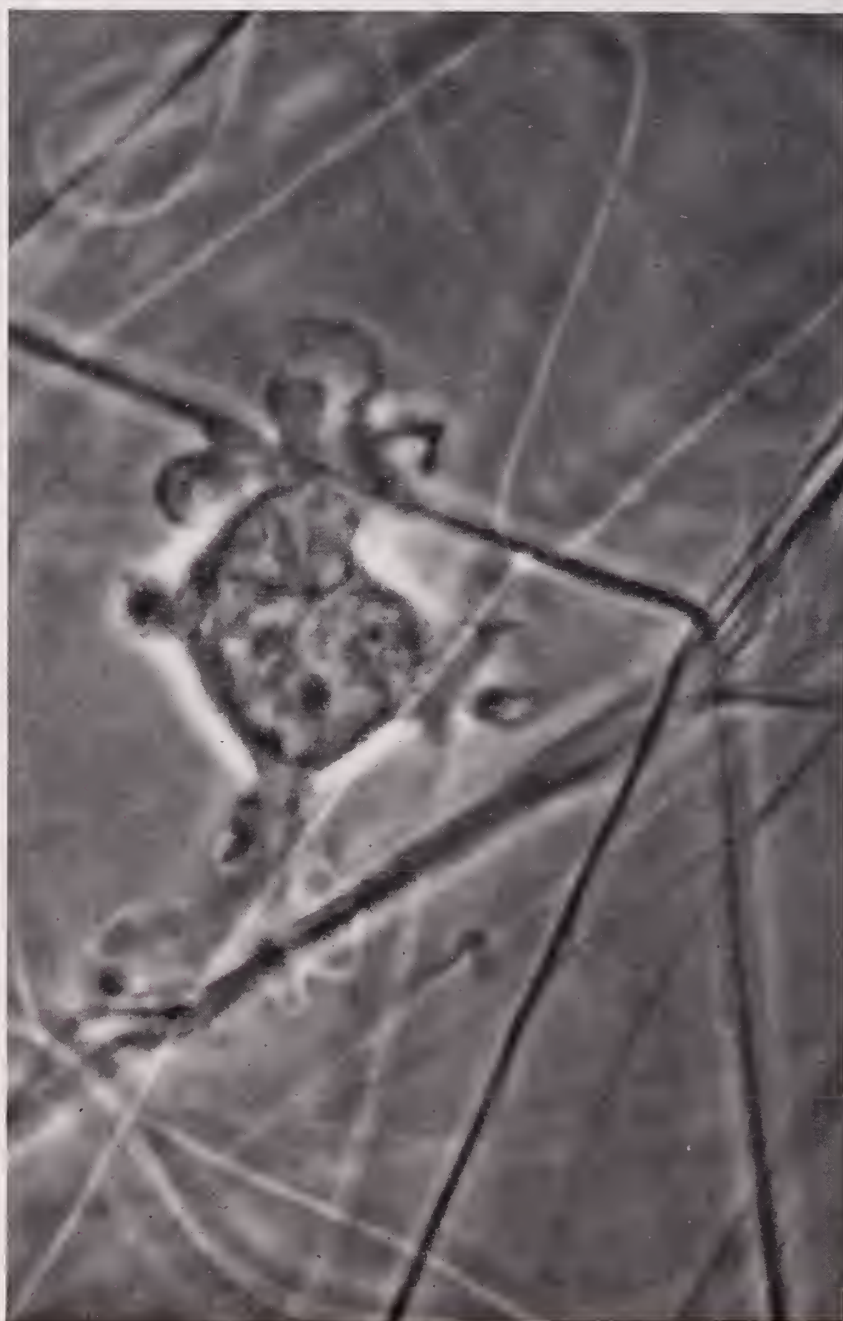


# INFLAMMATION: A cellular fight for life

*A SYNTEX REPORT based on recently developed hypotheses about topical corticosteroids, including the cellular theories of inflammation by Thomas F. Dougherty, Ph.D., University of Utah.*

You are looking at a fibroblast fighting for life. This cell—one of the most common found in connective tissue—has literally been poisoned by cytotoxins released from other cells that have ruptured. Soon, if the abnormal activity of this fibroblast does not cease, it, too, will rupture and die—one more casualty in the inflammatory wave of destruction precipitated by injury.

Until a short time ago no one had ever witnessed such a scene at the cellular level. Now, through advanced cinemicrographic techniques, it is possible to view and photograph the inflammatory process as produced experimentally in living animal tissue. This method permits new insight into the mechanism of inflammation and the role of corticosteroids in therapeutic management. Equally important, these techniques shed new light on factors that may make one corticosteroid more effective than another—factors that can be correlated with other chemical, biologic, and clinical parameters.

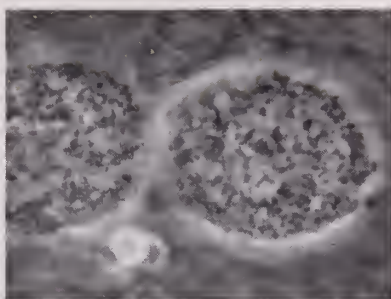


## Visual evidence of how corticosteroids influence the inflammatory reaction

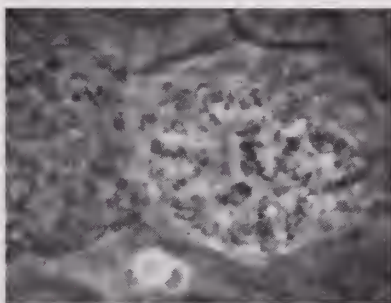
Working with phase-contrast cine-micrography on living animal tissue, Doctors Thomas F. Dougherty and David Berliner of the University of Utah College of Medicine have actually filmed cellular events that occur during the inflammatory reaction. This remarkable study\* and additional work by these investigators, as well as by others, have established a new theoretical biologic basis for the antiinflammatory effect of the corticosteroids. (It must be noted that other theories, such as the lysosome or so-called "suicide bag" theory, have been postulated, although it is quite likely that there are more similarities than differences among the various theoretical models.)

### The inflammatory wave of destruction

In this investigation an injurious injection of gelatin is used to set off an inflammatory reaction in living mouse tissue. What follows is a wave of destructive cellular activity that comprises the inflammatory response to injury. Mast cells (which contain heparin, serotonin and histamine) take up water, swell and rupture, releasing their contents, which are toxic outside the mast cell wall. These toxins, in turn, cause disintegration of other cells (such as fibroblasts) and the release of additional toxic material. Capillaries, too, take up water and leak unformed blood elements, causing edema. And polymorphonuclears, lymphocytes and perithelial cells invade the inflamed site. As a result of all these changes, the cellular environment reaches a state of turmoil.



*Phase-contrast microscopy showing mast cell before injury.*



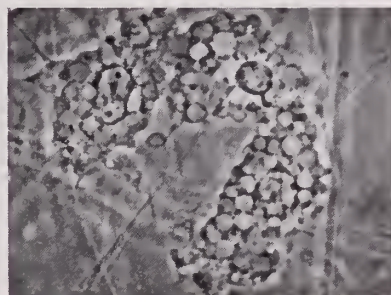
*Mast cell (after injury) has broken up and released cytotoxins.*

### How corticosteroids change the picture

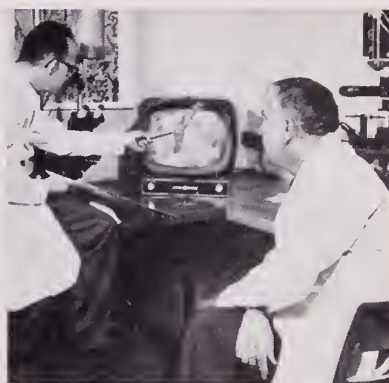
Corticosteroids appear to virtually stop the abnormal cellular activity that constitutes the inflammatory reaction. This permits the body's natural resources to clear up the inflamed area and repair the damaged tissue. This interpretation is supported by the fact that when the injurious gelatin solution is injected simultaneously with a corticosteroid—Synalar (fluocinolone acetonide)—the inflammatory pattern simply does not develop.



*Fibroblast in high state of activity, much distorted.*



*Mast cells showing effects of corticosteroid action: cells are normal in size, shape and activity.*



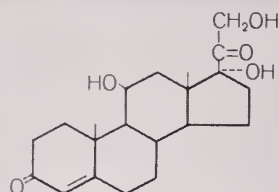
In summarizing his study Doctor Dougherty states: "...we also feel this work may explain why one corticosteroid helps a patient more rapidly and effectively than another. If it does, it is because one corticosteroid is the fastest, most effective inhibitor of the series of inflammatory events at the tissue level."

\*A New View of Corticosteroid Action in Inflammatory Dermatoses, a film based on this study, is now available from your Syntex representative.

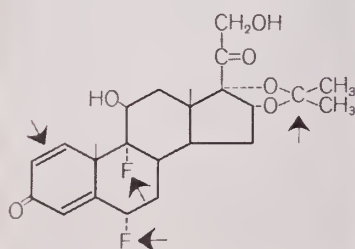


# How advances in chemical design have achieved greater steroid potency

The chemical modification of corticosteroid molecules from the advent of hydrocortisone to the development of Synalar (fluocinolone acetonide) is a prime example of how biochemists can "design" to increase therapeutic activity and minimize undesirable side actions. Below, for example, we see the important changes that were made in reference to the hydrocortisone molecule to produce fluocinolone acetonide, one of the most active of all topical corticosteroids. As a result, a 0.01% preparation of Synalar (fluocinolone acetonide) has been reported to do the work of a 1% hydrocortisone product containing 100 times more corticosteroid. And it can often do it more effectively.



**Hydrocortisone**

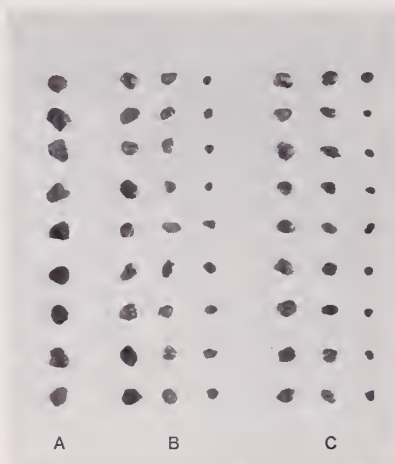


**Fluocinolone Acetonide (Synalar)**

- ☐ a double bond between carbons 1 and 2
- ☐ fluorine substitutions at both the 6- $\alpha$  and the 9- $\alpha$  positions
- ☐ the addition of the acetonide at the 16- $\alpha$ , 17- $\alpha$  positions, thus providing one of the most potent topical corticosteroids available.

## How bioassay tests are used to "predict" therapeutic potential

Biologic assays are another tool used by researchers to help establish the relative activity of corticosteroids. To date no single method of assaying corticosteroid activity has emerged as the ideal "yardstick" for predicting therapeutic potential. Taken together, however, these methods have proved useful. When such tests are run on various corticosteroids, a definite order of corticosteroid activity becomes evident. Compounds with the highest order of activity may be expected to merit clinical trial to establish their high therapeutic potential. When assayed by these methods, fluocinolone acetonide (Synalar) emerges as one of the most active topical corticosteroids, milligram for milligram, available for clinical application today.



THE THYMUS INVOLUTION ASSAY<sup>1-4</sup> is run on adrenalectomized rats. The sizes of the glands are measured, and the degree of involution caused by the steroid is determined as an indication of its potency. In the above photo, the comparative involution of thymus glands achieved with hydrocortisone and Synalar (fluocinolone acetonide) is shown. Untreated controls (A) show normal size. Group B— injected with 1, 2 and 4 mg. of hydrocortisone—show progressively smaller thymuses as does Group C— injected with fluocinolone acetonide—but with only 1/500th the dose of hydrocortisone.



THE ANTIGRANULOMA ASSAY<sup>1-4</sup> also utilizes adrenalectomized rats. Granulomas are induced by subcutaneous implantation of cotton pellets on either side of the thorax. The degree of granuloma inhibition achieved by a steroid reflects its potency. The above photo shows the inhibition of granuloma formation achieved with hydrocortisone and Synalar (fluocinolone acetonide). Untreated controls (A) show large, red granulomas adhering to the pellets. Group B, receiving hydrocortisone and Group C, receiving fluocinolone acetonide, show little, if any, granuloma formation. Fluocinolone acetonide produced the same effect as hydrocortisone with only 1/500th the dose. This assay, as well as the thymus involution assay, measures systemic rather than topical corticosteroid activity. Nevertheless, results by these methods correlate well with other assays and with the milligram potencies of topical steroids in current clinical use.



# Worldwide clinical experience confirms the predictable therapeutic potential of Synalar

It is particularly gratifying that the promise of the advanced chemical design and high order of bioassay activity of Synalar (fluocinolone acetonide) has been confirmed by widespread therapeutic application. Indeed, the impressive clinical response rate of Synalar has been documented in no fewer than 232 papers from 22 countries.

## PRESCRIBING INFORMATION

*For initiation of therapy:* Cream 0.025%, 5 and 15 Gm. tubes, 425 Gm. jars; *for emollient effect:* Ointment 0.025%, 15 Gm. tubes; *for maintenance therapy:* Cream 0.01%, 15 and 45 Gm. tubes, 120 Gm. jars; *for intertriginous or hairy sites:* Solution 0.01%, 20 cc. and 60 cc. plastic squeeze bottles; *for infected inflammatory dermatoses:* Neo-Synalar® Cream (0.025% fluocinolone acetonide, neomycin sulfate, equivalent to 0.35% neomycin base), 5 and 15 Gm. tubes.

**CONTRAINDICATIONS:** Tuberculous, fungal, and most viral lesions of the skin, (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of the components. **PRECAUTIONS:** Synalar preparations are virtually nonsensitizing and nonirritating. However, the solution may produce burning or stinging when applied to denuded or fissured areas. In some patients with dry lesions, the solution may increase dryness, scaling or itching. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for pro-

Representative Clinical Results with Synalar*			
Efficacy Documented in over 4,000 Patients			
Condition	Number of Publications	Number of Patients	Significant Improvement†
Contact Dermatitis	27	750	713
Eczematous Dermatitis	21	472	409
Seborrheic Dermatitis	18	442	426
Atopic Dermatitis	24	460	426
Psoriasis	36	1,699	1,510
Neurodermatitis	18	351	324
<b>Total</b>	<b>144</b>	<b>4,174</b>	<b>3,808</b>

\*Complete bibliography on request.

†Expressed by the authors as excellent, very good, good, complete remission of inflammation, etc.

longed periods of time. Prolonged use of any antibiotic may result in overgrowth of nonsusceptible organisms; if this occurs, appropriate therapy should be instituted. When severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. **SIDE EFFECTS:** Side effects are not ordinarily encountered with topically applied corticosteroids. As with all drugs, however, a few patients may react unfavorably to Synalar under certain conditions. The neomycin in Neo-Synalar Cream rarely produces allergic reactions.

**REFERENCES:** 1. Lerner, L. J., Bianchi, A., Turkheimer, A. R., Singer, F. M., and Borman, A.: Anti-inflammatory steroids: potency, duration and modification of activities. *Ann NY Acad Sci* 116:1071 (Aug. 27) 1964. 2. Idem: Comparison of anti-granuloma, thymolytic and glucocorticoid activities of anti-inflammatory steroids. *Proc Soc Exp Biol Med* 116:385 (June) 1964. 3. Ringler, A.: Activities of adrenocorticosteroids in experimental animals and man, in Dorfman, R. I.: *Methods of hormone research*, New York, Academic Press, 1964. vol. III. pp. 234-280. 4. Gubersky, V. R.: To be published.

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a topical corticosteroid  
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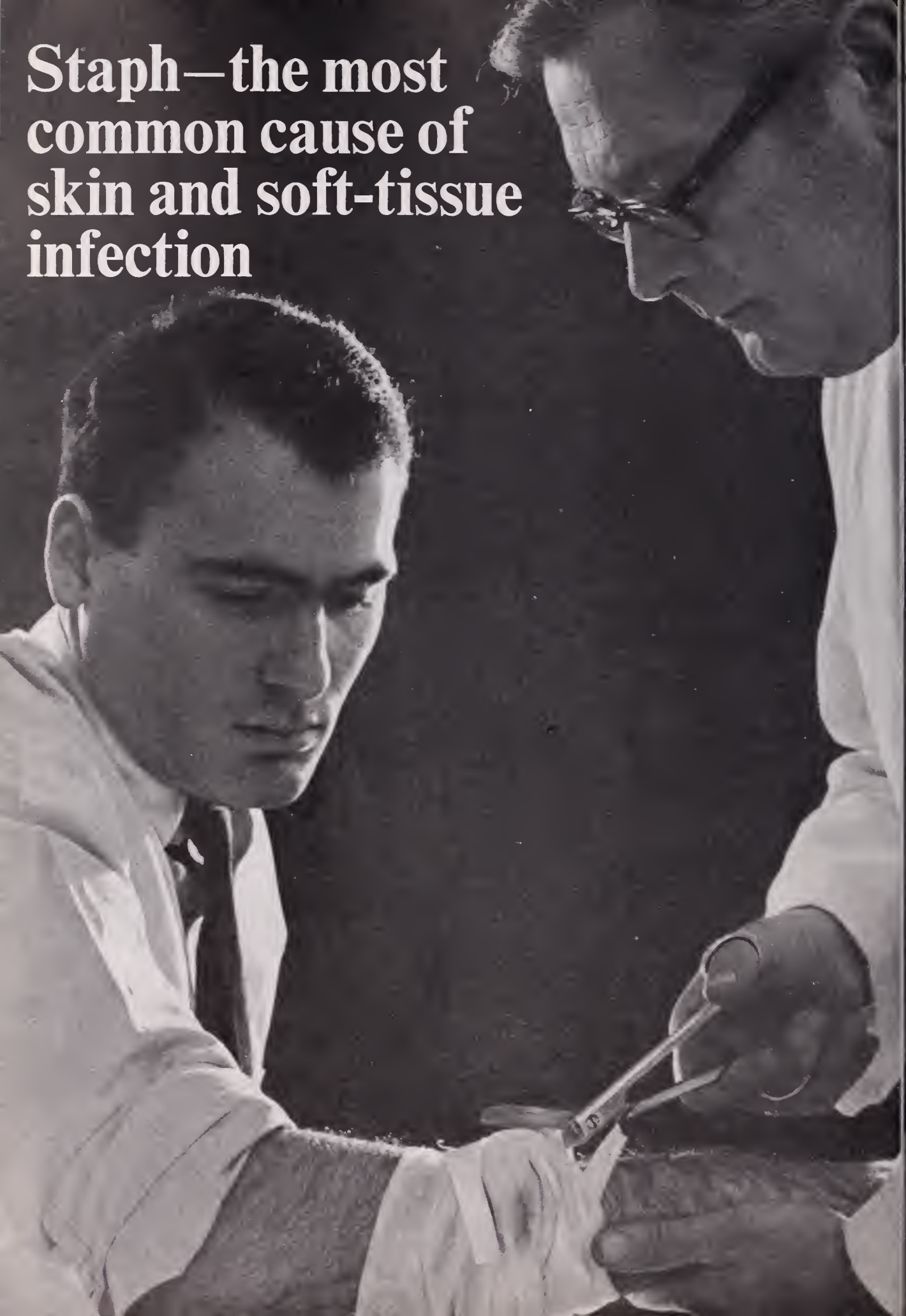
# Synalar® (fluocinolone acetonide)

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one of the most active topical  
corticosteroids available

Rapid and predictable  
in antiinflammatory and  
antipruritic activity

Results often comparable to  
those of systemic corticosteroids  
with fewer hazards

**Staph—the most  
common cause of  
skin and soft-tissue  
infection**





# reliably controlled with specific therapy



*A suitable dosage form for every staph situation*

Staph—the most common cause of skin and soft-tissue infection—also is responsible for many more serious infections, such as pneumonia, osteomyelitis, and septicemia. Often, a seemingly minor skin infection is the source of metastatic spread to deeper structures. When findings on culture incriminate staph as the cause, Prostaphlin (sodium oxacillin) will provide specific effective therapy.

**Bactericidal effectiveness.** Hardly a staph organism can resist the bactericidal action of Prostaphlin (sodium oxacillin), as shown by a 34-month *in vitro* study. Of all staph isolates tested, 99.5% were sensitive to oxacillin.<sup>1</sup>

**Clinically proven.** There is a high correlation between these *in vitro* findings and clinical results. Of 610 patients treated with Prostaphlin (sodium oxacillin), 89.8% were reported cured or improved, including those with staph infections resistant to penicillin G.<sup>2</sup> And since resistance does not appear to develop *in vivo*, therapy with oxacillin can be extended when necessary.

**Outstanding safety record.** Besides being staph-specific and rapidly absorbed—Prostaphlin (sodium oxacillin) has established an outstanding record of safety during five years of widespread clinical use. Continuous high blood levels of oxacillin have not produced toxic effects on kidney function, assuring a significant margin of safety. However, as with all penicillins, the possibility of allergic response should be considered.

**Capsules, Oral Solution and Injectable.** Prostaphlin (sodium oxacillin) is available in three flexible dosage forms to suit the age of the patient and severity of infection—capsules, an oral solution for pediatric use, and multi-dose vials for injection, I.M. or I.V.

**PRESCRIBING INFORMATION:** For complete information, consult Official Package Circular. **Indications:** Infections caused by Staphylococci, particularly those due to penicillin G-resistant Staphylococci. **Contraindications:** A history of severe allergic reactions to penicillin. **Precautions:** Typical penicillin-allergic reactions may occur. Safety for use in pregnancy and premature infants is not established. Because of limited experience, use cautiously and evaluate organ system function frequently in neonates. Mycotic or bacterial superinfections may occur. Assess renal, hematopoietic and hepatic function intermittently during long-term therapy. **Adverse Reactions:** Skin rashes, pruritus, urticaria, eosinophilia, nausea, vomiting, diarrhea, fever and occasional anaphylaxis. Rare cases of reversible hepatocellular dysfunction have occurred. Moderate SGOT elevations have been noted. Thrombophlebitis has occurred occasionally during intravenous therapy and leukopenia was noted in two cases. **Usual Oral Dosage:** Adults: 500 mg. q.4 or q.6h. Children: 50 mg./Kg./day. **Usual Parenteral Dosage:** Adults: 250-500 mg. q.4 or q.6h. Children: 50 mg./Kg./day. Treat beta-hemolytic streptococcal infections for at least 10 days. Give oral drug 1 to 2 hours before meals. **Supplied:** Capsules—250 and 500 mg. in bottles of 48. Injectable—250 mg., 500 mg., and 1 Gm. dry filled vial for I.M./I.V. use. For Oral Solution—100 ml. bottle, 250 mg./5 ml. when reconstituted.

**A.H.F.S. CATEGORY: 8:12.6**

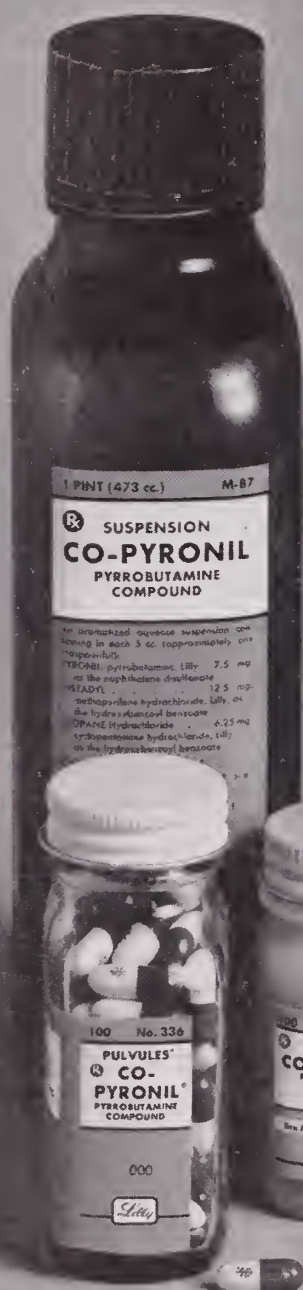
**References:** 1. Abstracted from *Antibiotic Sensitivity of Staphylococci Studied from November 1962 through August 1965*, reported by Griffith, L.J., Staphylococcus Reference Laboratory, V.A. Hospital, Batavia, N.Y. 2. Data on file, Bristol Laboratories.

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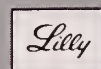




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## *The Clinical Teacher and The Medical Curriculum*

THE RECENT Medical School retreat for consideration of the need for a new curriculum reminded me of a speech given by a famous surgeon of the Harvard Medical School. It was very interesting that the situations and problems at our school simulate the problems related by him of our oldest University. The following are excerpts from the text of his thoughts on the teaching of medical students.

"In a moment of self-communing, Leonardo wrote in his notebook: 'The supreme misfortune is when theory outstrips performance.' This might well be taken as a motto to hang in our several faculty rooms, for it is one thing to sit and theorize about teaching, and quite another to find people capable of carrying out our altogether admirable ideas—or to practice them ourselves.

"But there are fashions in teaching, like fashions in other things, and one must conform or be regarded as out of date, even though, after all, we may reach our destination whether we ride sidesaddle or ride astride. Just now, for example, in our medical schools the 'didactic lecture' is tobooo.

"Thus it is that the personal influence of the teacher has largely become swamped, and we try vainly to atone for this by juggling with the curriculum, forgetful that no two instructors in any two schools can possibly reach students with precisely the same methods; and that no two students get their inspiration, such as it is, in the same way out of their particular school or its individual instructors.

"Then, too, there is another difficulty. Those unknown people who set the fashions and who determine the proper number of pupils that are to be taught, and the distribution of their hours, and the way they should be instructed, and how they should be examined and graded, expect something else than instruction: some of them, indeed, wield a big stick labeled 'research,' which strikes terror to the rabbit-heart of many a hard-driven and underpaid teacher, not all of whom can dare say, as Roland, the physicist said when asked what he did with his undergraduate students: 'I neglect them.'

"It is a good thing to strive for an ideal, but futile to seek the impossible. Recently a surgical teaching position in a well-known hospital was to be filled, and those appointed to choose a candidate were told that he must have at least the following seven qualifications: (1) He must be a 'researcher' (God save the mark!); (2) He must be able to inoculate others with a spirit for research; (3) He must be a tried teacher; (4) He must be a capable administrator of his large staff and department; (5) He must, of course, be a good operating surgeon; (6) He must be cooperative; (7) He must have high ideals, social standing, and an agreeable wife. Of course there is no such person. Any one or two of these qualities, if sufficiently outstanding, might be enough to justify an appointment, provided a junior staff makes up for the others.

"I presume the Harvard Medical School is no different from most medical schools in that no faculty member is quite satisfied with the existing curriculum, and, as a result, about every three years someone protests with sufficient energy to force on his reluctant colleagues some radical changes. It may be likened to a game, with the curriculum the ball, the preclinical teachers reinforced by the department of public health on one side, the clinical teachers on the other, very little scoring of late years having been done by the latter. It is a game which will never be over, and just what the curricular score may be at the moment does not appear to make any great difference; for, provided a school secures the best available teachers for its various departments and at the same time selects its students with care, and not too many of them, the product seems to be pretty much the same, whatever the system—or lack of it.

"In any old and established school, the curriculum inevitably becomes hidebound. To make a change anywhere requires a delicate surgical operation under general narcosis, and it's usually found difficult to close the wound and secure primary healing. Ex-

periments of this sort are only possible with a new school which has a young and elastic skin. Consequently, the long-suffering 'Curriculum Committee' of older schools is apt to become a most conservative body, for otherwise many hours must be expended in persuading the collegiate family that an operation is necessary, and afterward in dressing with salves the painful wounds which have been made. With this we are all familiar, and it is usually due to the effort to insert something new rather than to remove something unnecessary from under the greatly stretched curricular skin. So far as the curriculum is concerned, our discussions in faculty meeting are given over largely to the struggle for elbow room between established courses, of which there are too many. Never, as far as I recall, has such a topic arisen as the comparative abilities of the teachers to give inspiration, whatever their subject.

"The personal equation of the teacher does not appear in the syllabus issued from the dean's office, though it is known in every student's boarding house.

"We have just been going through one of our triennial turnovers at the Harvard Medical School in the endeavor to find out what is wrong with the student and with our method of teaching. This time, pressure has been brought to bear by certain members of the faculty of a philosophical turn of mind, who have discovered that the trouble with the undergraduate is that he has no time for intellectual cogitation. Consequently, at the risk of not meeting our obligations to state board requirements, we have materially cut down our hours of instruction so that the students have their freedom Tuesday afternoon and Thursday afternoon and all day Saturday and Sunday. We have as yet made no statistical study of the amount of rumination they do in these free hours; nor do I think such a study will ever be made because by the time there are sufficient data to rely upon we shall probably have gone back to the old system, or new courses will have crept in to fill up these free afternoons.

"As a matter of fact, a large number of the students fret considerably during their first two years, and not a few of them only

begin to show their real worth and have their interest stimulated when they have actually come to the bedside and have an opportunity to study and care for the maimed and afflicted close at hand. Our preclinical brethren tell us the trouble is we do not sufficiently emphasize, in the clinic, the bearing of what the students have previously been taught on the clinical problem before them. At this we scratch our heads for a ready reply, but the obvious answer is that what the students have been taught has no apparent bearing on at least 75 per cent of the countless minor ailments with which they must become familiar—the flat-footed head waiter, the old man with a chronic scab on his lip, the young woman with a backache or a lump in her breast, the baby with convulsions, the workman with an ulcer on his leg or a fistula in his bottom, or, worse, with an infected or injured hand which, improperly treated, may be the end of his wage-earning days.

"If these things are bad for the prospective physician, they are infinitely worse for the prospective surgeon, whom I may possibly have chiefly in mind, for, in proportion to the seriousness of his therapeutic agency, wrong diagnoses may lead to calamities unknown to the practice of physic. An acquaintance of mine, greatly interested in the furtherance of medical science, had a trifling injury to his ankle, which was put up in so tight a dressing that on its removal the top of his foot was found to have sloughed, and many months of slow and painful healing followed. The only doctor who makes no mistakes is the doctor who has nothing to do, and a calamity of this sort may happen, alas! to any of us; but a little more of the art and less of laboratory science would make its occurrence less likely.

"I may give an example of how an over-trained laboratory instinct may affect our senior students, our house officers, and, I fear, many of the graduates now engaged in what is called group medicine—a form of practice which lends itself to the making of an unnecessary number of expensive and useless routine tests. A patient was admitted in the fall to one of our well-known hospitals noted for its spirit of investigation and the exactitude of its work. The only thing that appeared to be wrong with the man was that

Continued on page 251.





This is my first letter to you as your president and I am afraid you will have to put up with eleven more. I pledge that I will attempt to avoid verbosity, stay away from triteness and bring you only thoughts which I consider to be of value.

Your president has duties in roughly four categories, with some overlap. Not in order of importance, they may be listed as—

1. Figurehead duties, including a large number of roast beef dinners with windy speeches.
2. Help carry out the work of your various councils and committees as they implement the desires of our house of delegates.
3. Deal with urgent liaison and other problems in the interim between board of trustee meetings.
4. Try to further new projects which may help the association.

Under number 4, I wish to effect a firmer relationship between members, county societies, district societies, and your state association. We hope to come to your local meetings with a team of state representatives to tell you of current activities, and to receive your suggestions, comments and complaints. Perhaps we can bring you closer to us and us closer to you. Through a consolidation of our ranks your association will become stronger and more unified.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "Maxwell A. Johnson". The signature is fluid and cursive, with a large, stylized "M" and "J".

## Acute Intermittent Porphyria in Childhood

JAMES E. MAYS, JR., M.D.

*A brief clinical summary of the diagnosis and treatment of acute intermittent porphyria in children. The differential diagnosis is discussed.*

**PORPHYRIA** IS a poorly understood disorder of porphyrin metabolism. There is good evidence available to divide porphyria into two classes: 1) familial, and 2) acquired. Porphyrins are found in all cells of the body, but the bone marrow and liver cells have the highest concentrations. Porphyrins are necessary for the formation of respiratory enzymes such as hemoglobin, cytochrome, myoglobin, catalase, and peroxidase. The disease porphyria is associated with increased excretion of porphyrins and/or their precursors in the feces and urine, but the disease symptomatology is not completely correlated with the increased output of these metabolites.

Classification of porphyria is still quite confused because much of the classification system is based on symptomatology and not on the basic biochemical differences, which at this point in our knowledge, are quite vague in many areas. One of the sim-

plest classifications of porphyria has been presented by Gable<sup>5</sup> (figure 1).

- I. Porphyria erythropoietica (recessive)
- II. Porphyria hepatica
  - A. Hereditary acute intermittent (A.I.P.) (dominant)
    - 1. Manifest
    - 2. Latent
  - B. Hereditary, mixed or "varigate" group (dominant)
    - 1. Cutaneous with little or no acute manifestations
    - 2. Acute intermittent without cutaneous symptoms
    - 3. Various combinations
    - 4. Latent
  - C. Hereditary cutaneous ??

Figure 1. Classification of porphyria

The major groups are (A) congenital erythropoietic porphyria, which is biochemically distinct from the other forms; (B) hepatic porphyria, the most confusing of the classifications; and (C) acquired porphyria due to exotoxins. A fourth group should be considered only to exclude them from the true disease, and this is porphyrinuria. Porphyrinuria is merely the presence of porphyrins in the urine, and is usually due to severe bleeding, anemias, lead poisoning, alcoholism, and hepatic dysfunctions. The hepatic porphyrias are ordinarily divided into two major groups: The Swedish type commonly called acute intermittent porphyria, which does not have photosensitivity as part of its symptoms, and the South African type of mixed porphyria, which does

From the Department of Pediatrics, Oklahoma City Clinic, Oklahoma City, Oklahoma.

have photosensitivity as a predominant part of the clinical picture. In the acquired type of porphyria, the most notable example is the so-called Turkish type,<sup>4</sup> which is caused by ingestion of fungicides (hexachlorobenzene) used on cereal grains in Turkey. Photosensitivity is a prominent part of the symptomatology.

In the diagnosis of acute intermittent porphyria, the key laboratory aids have been the presence of porphyrins and porphobilinogens (PBG) in the urine in abnormal quantities. Recently, another precursor has been demonstrated in the urine, namely delta-5-aminolevulinic acid (ALA). There are undoubtedly other compounds present, which at some later date may be of more importance. However, at this time the presence of porphobilinogen and ALA is considered highly suggestive of acute intermittent porphyria. Increased delta-5-aminolevulinic acid does not occur in congenital erythropoietic porphyria. Delta-5-aminolevulinic acid is produced in excessive amounts in lead poisoning and this may have to be differentiated from acute intermittent porphyria.

Procedures for the qualitative and quantitative measurement of these metabolites are available in many references. We will not dwell on them except to say that in our laboratory we are now doing quantitative determinations on 24 hour urine specimens for these metabolites. The quantitative amounts must exceed the known normal values for the given age before a chemical diagnosis is made.

Recently, in the pediatric literature,<sup>1,2</sup> there have been several good papers, both review and case reports,<sup>3</sup> on porphyria in childhood, more specifically, in children under puberty. We have been interested in this problem for many years, and two of our members have written on this subject.<sup>5,6</sup> I became interested after finding several children whose symptomatology resembled that of acute intermittent porphyria and whose urine contained increased amounts of porphyrins and ALA. Not all of these children had porphobilinogen in their urine, but I am convinced that this does not exclude the diagnosis in these patients.

These cases are representative of our experience:

CASE 1. This 11-year-old Caucasian girl was first examined in January, 1964 with the history of eczema of the hands for several years along with many episodes of stomach ache, general malaise and headaches. Physical examination was not remarkable except for her hands, which showed a scaly dry type of eczema. Routine blood and urine studies were within normal range. Protein bound iodine and blood sugar determinations were normal. Tests of the urine were found to be strongly positive for porphyrins and delta-5-aminolevulinic acid on three different occasions. At no time was porphobilinogen demonstrated in her urine. Due to the history of using hand ointments containing mercury, a 24 hour urine for heavy metal determination was done. The mercury level was 0.01 mg per liter which was well within normal range. The child was started on chlorpromazine, ten mg every six hours. After having shown some improvement, the chlorpromazine was increased to 25 mg every six hours. This provided almost complete relief of her symptoms. Occasionally her symptoms flare up, and extra doses of chlorpromazine are required. Incidentally, this child has an aunt who also has acute intermittent porphyria.

CASE 2. This ten-year-old Caucasian girl was examined in May, 1962 because of periodic abdominal pain during the preceding two or three months. There were also associated abdominal cramping and malaise. There was no vomiting nor diarrhea, but occasional constipation was present. Physical examination was not remarkable. Due to the severity of the pain, she was admitted to the hospital and given meperidine for symptomatic relief. Urines were found to be strongly positive for porphyrins and ALA. She was started on chlorpromazine, 25 mg every six hours. This was gradually increased to 50 mg every six hours. She be-

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*A 1956 graduate of the University of Tennessee College of Medicine, James E. Mays, Jr., M.D., has been certified by the the American Board of Pediatrics. In addition to his private practice, he is clinical instructor of the Department of Pediatrics at the University of Oklahoma Medical Center. Doctor Mays is a member of the American Academy of Pediatrics and the Central Oklahoma Pediatric Society.*



gan to respond clinically but on the fourth day she developed numbness in the right foot and a right foot drop with loss of anterior tibialis function. She was treated by an orthopedist with a brace for the foot drop and was discharged on chlorpromazine. In June, 1962 it was noticed that she had some returning muscle function. In July, 1962 the foot drop was no longer present. She has been continued on chlorpromazine since then and has done quite well.

CASE 3. This 14-year-old Caucasian girl was examined in February, 1963 because of cramping abdominal pains intermittently for some time. With this pain there was no vomiting, and the most intense pain was epigastric in location. Physical examination was not remarkable. An upper gastrointestinal series was normal. Her urines were strongly positive for porphyrins and for ALA. She was given ten mg of chlorpromazine three times daily with some improvement. Later she was admitted to the hospital because of recurrent abdominal pain, and at that time the chlorpromazine was increased to 25 mg three times daily with subsequent improvement of symptoms.

CASE 4. This 13-year-old boy was admitted to the hospital June 11, 1962 following an acute abdominal pain which began one day before admission. This was one of many bouts of acute upper abdominal pain that this child had experienced during the last six or seven years. It was concluded that he did not have a surgical abdomen. His blood counts were within normal limits and the urine was negative on routine examination. The urine was strongly positive for porphyrins and ALA. He was started on chlorpromazine, 25 mg every six hours which promptly alleviated his symptoms. This boy keeps chlorpromazine at home. Once he feels the pain returning, he resumes medication and this has aborted subsequent dramatic episodes of pain.

CASE 5. This nine-year-old Caucasian boy was examined with the history of periodic attacks of abdominal pain beginning two months before being seen in our office. There was no vomiting, but the patient became very pale and tired. The pain lasted from a very few seconds to half a minute

and then subsided always to recur within a few minutes. Headaches did occur at this time. An upper gastrointestinal series was normal. Tests of the urine were positive for porphyrins and ALA, but negative for porphobilinogen. He was treated with chlorpromazine with good symptomatic relief.

CASE 6. This nine-year-old Caucasian girl was examined because of repeated attacks of upper abdominal pain for one month. Physical examination and routine laboratory studies were within normal limits. An upper gastrointestinal series was normal. The urine was positive for porphyrins and ALA. She was treated with chlorpromazine with dramatic reduction of her symptoms.

CASE 7. This three-year-old Caucasian girl was admitted from the Presbyterian Hospital Emergency Room with the history that she had been comatose for two days. The immediate examination revealed that she was in diabetic acidosis and coma. She was treated appropriately with fluids and insulin. She responded quite slowly and did not follow the expected course of a juvenile diabetic in acidosis. During this time she developed a left foot drop, and a lumbar puncture was done as part of the work-up because of the neurologic problem. No abnormalities of the spinal fluid were found. Her urine was then checked and found to be strongly positive for porphyrins and ALA. She was started on chlorpromazine, ten mg every six hours and within 24 hours she was clinically much improved. She was ambulatory, eating and obviously feeling quite well. At the time of discharge, her diabetes was under good control, and she was taking chlorpromazine ten mg every six hours for porphyria. She still had left foot drop and this was treated with physical therapy and a brace. Her foot drop subsided in about three months, and has not recurred. Since she lives some distance from Oklahoma City, during an episode of vomiting and acidosis, she was given an seconal suppository inadvertently elsewhere, which may have precipitated a crisis of her acute intermittent porphyria.

This child's family history is extremely interesting in that her mother and nearly one-third of the family on the maternal side as well as her father have positive urines for porphyrins and ALA.

CASE 8. This 12-year-old Caucasian girl was examined because of the relatively sudden onset over a period of a few days of an isolated left peroneal nerve paralysis. Physical examination and all laboratory studies were normal except for the urine which was strongly positive for porphyrins, ALA and porphobilinogen. Quantitative analysis of 24 hour urines revealed marked elevation of all components. She was treated with chlorpromazine, 25 mg every six hours, with relief of her symptoms except for the foot drop, which is being treated with a brace. In her past history this child had been classified as "nervous" all her life and had had frequent episodes of headache and stomach ache as well as other vague neurologic complaints. It is interesting to note that on checking her family the mother also has acute intermittent porphyria.

#### DISCUSSION

The diagnosis of acute intermittent porphyria should be considered in children under puberty who have any of the following symptoms: Weakness, malaise, intermittent colicky abdominal pain, headaches, or isolated muscle group paralysis. Chronic eczema due to photosensitization of the exposed parts of the body is unlikely in childhood; however, Case 1 had this as part of the symptomatology. All of the patients in this series had positive urinary findings when checked for porphyrins and its precursors; likewise they had increased urinary excretion of porphyrins and delta-5-aminolevulinic acid. In approximately 50 per cent of these patients, we were able to demonstrate the presence of porphobilinogens in the urine. One possible explanation for the difficulty in demonstrating porphobilinogen in the urine is the fact that the reaction converting porphobilinogen to porphyrins is an autocatalysed reaction initiated by the presence of porphyrins which normally proceed very rapidly. If the time interval from collecting

the specimen to doing the laboratory procedure for porphobilinogen is prolonged, most or all of the porphobilinogen have been converted to porphyrins. Aside from the laboratory findings and clinical symptoms, the most important diagnostic test in our experience has been the complete relief of symptoms following the administration of chlorpromazine (Thorazine) in an amount of from two to four times that recommended for sedation. If the patient involved has acute intermittent porphyria, in our experience, the symptoms are relieved in six to 18 hours, and the patient remains alert and free of sedation. If the patient does not have acute intermittent porphyria, prompt sedation occurs without relief of symptoms.

#### SUMMARY

Eight cases of acute intermittent porphyria in children have been reported in the age range from three to 12 years. These children all had symptoms of acute intermittent porphyria as well as chemical aberrations of increased porphyrins and ALA in their urine. In four of these children, there is a definite family history of acute intermittent porphyria. In our opinion the fact that porphobilinogens were not demonstrated in the urine should not deter one from making a diagnosis of acute intermittent porphyria if chlorpromazine produces relief of symptoms without sedation. □

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\*Multiple of adult Minimum Daily Requirement supplied.

<sup>†</sup>The need for these substances in human nutrition has not been established.

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# Photosensitivity—A Review

MARK ALLEN EVERETT, M.D.

*Light sensitive reactions are a frequent manifestation of drug sensitivity and systemic diseases such as lupus erythematosus. The pathogenesis, diagnosis and treatment of these disorders are reviewed.*

**ADVERSE REACTIONS** to sunlight are frequently encountered in medical practice. In idiopathic diseases such as lupus erythematosus and dermatomyositis, in polymorphic light sensitivity and porphyria, and when various drugs are administered, "photosensitivity" is a recurrent problem. Properly speaking, photosensitivity occurs following light exposure, if the skin contains a physiologically significant quantity of a *light-sensitizer*. This photosensitizer may be endogenous or exogenous, and may be circulating, fixed in the dermis or epidermis, or be on the surface of the skin. When the photosensitizer is located on the surface, the resultant dermatitis is called *contact photo-dermatitis*. Regardless of the route whereby the photosensitizer reaches the skin, the mechanics of the reaction are the same, *i.e.*, the photosensitizing compound acts as a "light trap" or photon absorber. As a result, a

greater proportion of the ultraviolet energy impinging on the skin is available for chemical reactions.

## NATURE OF PHOTSENSITIZERS

What are the characteristics of a chemical compound which suggest that it may be a potential photosensitizer? First, it must have the capacity to absorb radiant energy in the visible or, more frequently, the ultraviolet segment of the electromagnetic spectrum—*i.e.*, the compound must exhibit absorption

peaks in the range 2800-4500 Å. Secondly, the compound must be able to transfer this energy to other systems. Practically speaking, nearly all photosensitizers of clinical importance contain six member carbon rings with alternating double bonds, so called aromatic rings. The *categories* of chemical compounds which are of clinical importance as photosensitizers include: Dyes (figure 1), antibacterial agents (figure 2), coal tar products (figure 3), various drugs (figure 4), porphyrins and several varieties of plants (figure 5). All of the photosensitizing plants contain psoralens (figure 6), another type of closed ring compound. Potential light absorbers found *normally* in tissues include tryptophane, tyrosine, cytosine, thymine and melanin.

## NATURE OF PHOTOREACTIONS

Cutaneous photoreactions may be classified into two general types: "*Toxic*" and "*al-*

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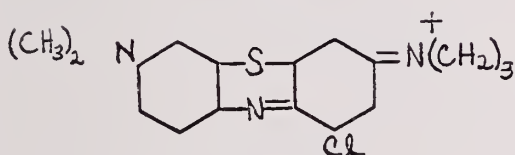
ergic." In *toxic* photoreactions, the photosensitizer increases the amount of radiant energy available for chemical reactions and hence augments the "normal" erythema or sunburn reaction which follows exposure of the skin to ultraviolet light. This consists of varying degrees of erythema and even bullae. In phototoxic reactions, the photosensitizer "traps" a greater per cent of the incident radiant energy and there results intensification of the "sunburn" reaction. Hence, toxic photodermatitis is mostly manifest as an *exaggerated sunburn*. Important examples of toxic photodermatitis are eruptions due to Gantrisin® and other sulfonamides, Declomycin® and griseofulvin. *Porphyryns* can also produce toxic photodermatitis—frequently seen in porphyria congenita and erythrocytic protoporphyria. One important disease which exhibits a clinically distinctive photosensitive reaction is porphyria cutanea tarda. In addition to bul-

lae, especially on the dorsum of the hand, a peculiar dark pigmentation and hypertrichosis occur in the light exposed areas. Porphyrins, like most photosensitizers, are compounds containing multiple closed rings, but unlike the majority, their absorption peak is not in the ultraviolet but in the visible portion of the spectrum (3900-4200 Å). *Toxic* photoreactions frequently are followed by *residual hyperpigmentation*. Toxic photodermatitis can be produced in *nearly every-one* if the quantity of photosensitizer present is large enough.

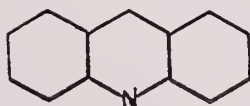
Although the majority of clinically important cutaneous photoreactions are phototoxic, in nature, a few important sensitizers regularly induce *photoallergy*. In this form of photosensitivity there occurs an antigen-antibody reaction following exposure to light. Allergic photodermatoses are most frequently produced by sulfonamide derivatives, *i.e.*,

#### DYES

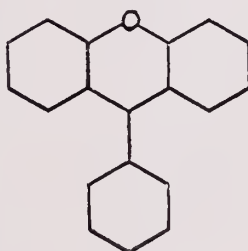
Methylene Blue



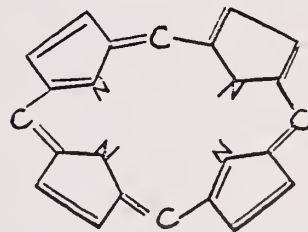
Rose Bengal



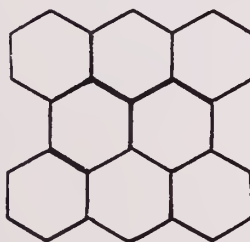
Erythrosin  
Eosin



Hematoporphyrin



Hypericin



Chlorophyll

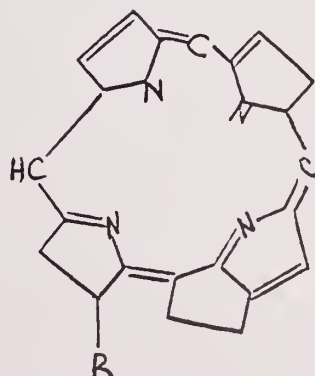


Figure I



ANTIBACTERIAL CONTACT PHOTOSENSITIZERS

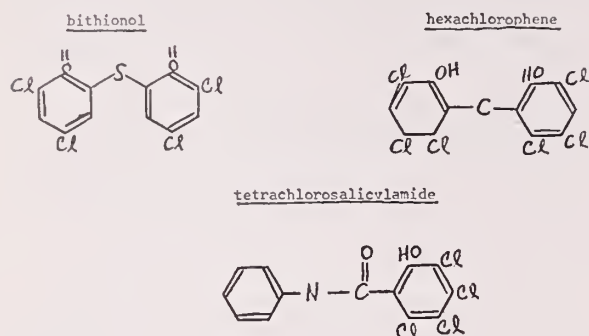


Figure II

sulfanilamide, Gantrisin® and chlorothiazide. *Allergic photodermatitis* reflects specific host hypersensitivity. The photosensitizer itself may act as an antigen or a hapten or, light may activate (directly or indirectly) a compound to which the host is allergic. The resultant allergen or antigen then reacts with the specific antibodies (previously developed by the host's tissue) to produce the dermatitis. In allergic photodermatitis, circulating antibodies frequently can be demonstrated by passive transfer or reverse passive transfer. Since in allergic photodermatitis the light activates an antigen-antibody reaction, the resultant dermatitis, rather than being an exaggerated sunburn, may be any known cutaneous reaction—most often erythema, urticaria or bulla formation.

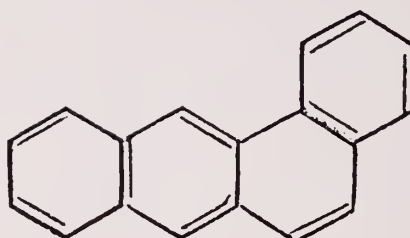
Compounds fixed in the skin occasionally produce photoallergy. Examples are the red and yellow dyes in tattoos.

In addition to *allergic* and *toxic* photodermatitis, all photosensitizing compounds are also capable of producing cutaneous drug eruptions of unexposed skin—independent of and unrelated to, light exposure. All three types of reaction may be seen occasionally even in one individual.

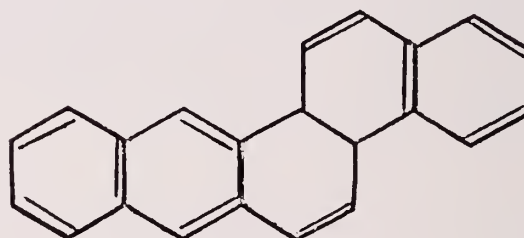
Sunlight intolerance is a characteristic of certain patients with lupus erythematosus and in those suffering from polymorphic light eruptions. In these patients, the mechanism of the light sensitivity is unknown and no photosensitizer has been demonstrated. Usually the erythema reaction to ultraviolet light is neither prolonged nor accentuated,

COAL TAR DISTILLATES

benzanthracene



3,4 benzpyrene



phenanthrene

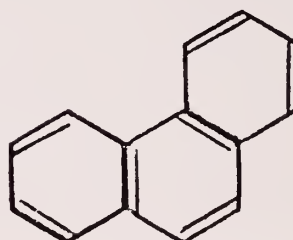


Figure III

Mark Allen Everett, M.D., graduated from the University of Oklahoma School of Medicine in 1951, where he is presently Professor of the Department of Dermatology. He is certified by the American Board of Dermatology.

Doctor Everett's professional affiliations include the American Academy of Dermatology, the American Dermatological Association, the Oklahoma State Dermatology Society, the Radiation Research Society, the Society of Investigative Dermatology and the American Venereal Disease Association.

Table I  
Drug Photosensitivity

Clinical Expression	Phototoxic Reactions	Photoallergic Reactions
a) Early	Quantitative (exaggerated sunburn)	Qualitative (other lesions)
b) Late	Residual pigment	Pigment rare
Incubation Period	Under 5 days	10-21 days
Amount of Drug	Dose dependent	Dose independent
Passive Transfer	Rarely positive	Usually positive
Reverse Passive Transfer	Never positive	Occasionally positive

and lesions characteristic of the disease develop following light exposure.

Important features distinguishing photoallergy from phototoxicity are summarized in table I.

#### CONTACT PHOTODERMATITIS

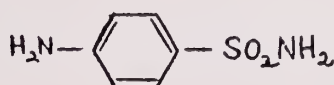
The form of cutaneous photosensitivity most likely to develop clinically peculiar lesions is *contact photodermatitis*. A photosensitizer on the skin in light exposed areas occasionally produces bizarre lesions. Although nearly any of the compounds previously mentioned as photosensitizers may be responsible for contact photodermatitis, by virtue of their ubiquitous presence, the most important are the coal tars, psoralens (present in many plants) and the antibacterial agents such as the halogenated salicylanilides (present in first aid creams and "deodorant" soaps).

Photosensitizing plants often produce vesicular dermatitis resembling poison ivy. Unlike ivy dermatitis, the eruptions occur *only* in areas subsequently exposed to light, and following resolution of the dermatitis, *pigmentation* is present which may persist many months. A special type of contact photodermatitis, *berloque dermatitis*, is produced by colognes and perfumes containing more than one per cent bergamot oil (an extract from a variety of West Indian lime). Often bizarre pigmented patterns are produced.

Coal tars contacted at work or present in cosmetics may produce photodermatitis. Although limited to exposed areas, the convex portions of the face are involved most prominently. In addition to postinflammatory pigmentation, telangiectases may occur. Photodermatitis due to coal tars has been described under the terms of melanodermitis toxica, Hoffman-Haberman disease and Riehl's mel-

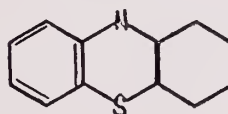
#### DRUGS

##### Sulfonamides

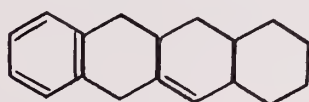


Sulfonylurea hypoglycemic agents  
Benzothiadiazine

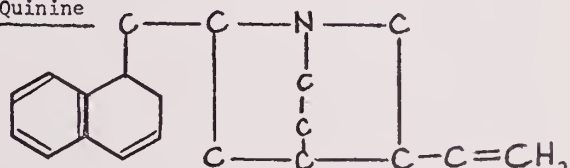
##### Phenothiazine Compounds



##### Demethylchlortetracycline



##### Quinine



##### Griseofulvin

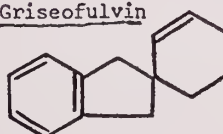


Figure IV

Figure V

PLANTS

UMBELLIFERAE

Heracleum: cow parsnip, wort

Ligusticum: lovage

Pastinaca: parsnip

Angelica: ferns

Pimpinella

Petroselinum: parsley\*

Apium: celery\*

Daucus: wild carrot

GRAMINEAE (grass)

Poa: meadow grass

CHENOPODIACEAE

Chenopodium: goosefoot, pigweed

\*human vegetable

RUTACEAE

Citrus: limes, bergamot

Fagara

Ruta: rue

Xanthoxylum: prickly ash

CRUCIFERAE (mustard)

Sinapis: yellow mustard

GUTTIFERAE (St. John's wort)

Hypericum: St. John's wort

MORACEAE

Ficus: fig\*

LEGUMINOSAE

Psoralea (scurf pea)

Coronilla: crown vetch

ROSACEAE

Agrimony: cockle bur

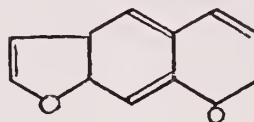
anosis. Eosin, a fluorescent anthracene coal tar derivative occasionally incorporated as a coloring agent for lipstick has produced photosensitization of the lips.

DIAGNOSIS

An important feature in differentiating cutaneous photoreactions from other disorders, such as simple drug eruptions, is the sharp limitation of the dermatitis to areas exposed to light. This may be seen in the example of toxic photosensitization from *sulfonamides*. It is important to remember that since most photoreactions are toxic rather than allergic, photosensitivity usually resembles a sunburn. Occasionally other reactions are seen.

Except for those patients with polymorphic light eruptions and those with systemic diseases such as lupus erythematosus or porphyria, the history will be positive for recent

psoralen

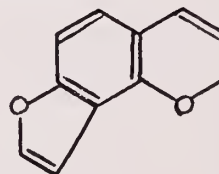


Xanthotoxin (8-methoxy)

Bergapten (5-methoxy)

Oxypeucedanin 5(β,γ-oxido-isoamyloxy)

angelicin



iso-bergapten (5-methoxy)

Figure VI

ingestion or application of a potential photosensitizer—hence the general categories capable of producing such reactions should be kept in mind—*i.e.*, dyes, drugs (especially sulfonamide derivatives), antibacterial agents, coal tars and psoralens. In the instance of *topical* photosensitizers, light testing of suspected compounds can be carried out. One MED of ultraviolet light is administered to skin previously exposed to the suspected contactant. When positive, an exaggeration of the erythema is seen when compared with a symmetrical area exposed only to ultraviolet light. It is probably unwise to phototest with systemic sensitizers since it is difficult to prevent later reactions to natural sunlight over large areas of skin.

TREATMENT

The treatment of light sensitive eruption involves, *first*, identification and discontinuation of the sensitizer. Secondly, *protection from light* until the sensitizer is identified



and eliminated. Although avoidance of sunlight is the best protection, topical sunscreens may be of temporary aid. It should be remembered that sunscreens themselves occasionally produce contact photodermatitis. In polymorphic light sensitivity and the systemic light sensitive diseases, oral antimalarials occasionally are of benefit.

#### SUMMARY

In conclusion, photosensitivity as a clinical problem appears frequently in patients with lupus erythematosus, various diseases of por-

phyrin metabolism, and in those with idiopathic photodermatoses—the polymorphic light eruptions. An even larger number of patients are seen in which photosensitivity is due to the presence of a photosensitizing compound. Awareness of potential photosensitizers and a search for them in every patient whose dermatosis is limited to light exposed areas—regardless of the morphology of this eruption—will permit accurate diagnosis and effective treatment in this important group of diseases. □

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### ***The Clinical Teacher . . .***

Continued from page 238

he had a fever of unknown origin. A variety of people whose special duty it was had made detailed examinations of blood, urine, sputum, stools, and cerebrospinal fluid—microscopical, chemical, bacteriological. His thoracic and abdominal viscera had been thoroughly and expensively studied by the roentgenologist. His basal metabolism had been estimated and recorded; electrocardiograms had been taken; and specialists were called in to exclude nose, throat, teeth, ears and eyes. All of these things took time, and meanwhile the fever persisted. At this juncture, a country doctor who had enjoyed none of the present-day laboratory advantages happened to visit the hospital, and as he passed this man's bed in the course of the morning's rounds he casually remarked: 'I am surprised to see that you still have an occasional case of typhoid fever in your neighborhood.'

"This or any other modification of our accepted curriculum will, in the long run,

only be worth while if there are the right people to carry it through, and if the principle is adhered to of having the more experienced clinical teachers the ones first to meet the students, for younger men are apt to shoot over their heads. And again I would like to emphasize that a proper teacher needs no particular formula, though he does need to have some limitation in the number of his pupils.

"In one of John Henry Newman's historical sketches, there is a passage which expresses all this in words far more picturesque than any I can summon: 'An academic system,' he said, 'without the personal influence of teachers on pupils is an Arctic winter, it will create an icebound, petrified, cast-iron university, and nothing else'."

The most interesting aspect to me about this lecture was that it was given to the Congress on Medical Education, Medical License, Public Health, and Hospitals, Chicago, March 3rd, 1924, by Doctor Harvey Cushing. —Bob J. Rutledge, M.D. □

# Community Psychiatry

## Its Development and Present Status in Oklahoma

Part II\*

EDWIN FAIR, M.D.

*Within the past five years there has been an emphasis on providing psychiatric services in the local community. With this changing pattern community or social psychiatry has evolved. As psychiatric services are becoming more widespread this involves medical practitioners in general practice as well as specialists. This paper gives a history of the development of the rapid changes in psychiatry, describes the status of community psychiatry in the State of Oklahoma at the present time.*

THERE IS one portion of this bill that is often overlooked since we center attention on the elderly. A revised version of Senator Ribicoff's Child Mental Health Bill was adopted as an amendment to the Senate Medicare Bill. As finally approved by the Senate and House, the grants program was dropped, but \$500,000 was authorized in the fiscal years of 1966 and 1967 for a non-gov-

ernmental commission which would make an extensive study of "resources, methods and practices for diagnosing or preventing emotional illness in children and of treating, caring for and rehabilitating children with emotional illness." The proposed Commission on Mental Illness in Children resembles the Joint Commission on Mental Illness and Health which, however, was concerned with adults primarily.

### THE OKLAHOMA FOCUS ON COMMUNITY MENTAL HEALTH

Prior to the Regional Guidance Centers Act of 1963, there were several community mental hygiene clinics in existence in the State of Oklahoma. Some had been in operation over five years. I refer specifically to the clinics serving the metropolitan areas of Oklahoma City, Tulsa and Ponca City. However, none had a program that would qualify under the regulations set up by the Community Mental Health Centers Act of 1963. In addition to the other activities listed in this act, it also provided \$50,000 a year for two years to Oklahoma for mental health planning.

After the enactment of this law, the Oklahoma State Medical Association, in its annual meeting, suggested that funds for

\*Part I of this article appeared in the April issue of *The Journal of the Oklahoma State Medical Association*.

mental health planning be raised from private sources. These funds were not forthcoming and our state did utilize the federal money for planning. In September 1963, the Oklahoma Mental Health Planning Committee was created at the direction of Governor Bellmon. The purpose of this committee as then defined was to conduct a Comprehensive Mental Health Survey of all Oklahoma in an effort to identify the existing needs in the broad spectrum of mental health and illness programs. Particular emphasis was to be placed on local community needs. One of the ultimate objects of the study through its findings was to recommend the strengthening of community-based mental health centers.

Governor Bellmon designated the State Health Department as the administrative agency for the program.

The total membership of the Mental Health Planning Committee consisted of about 200 members, and included physicians, attorneys, politicians, educators, ministers and representatives of lay organizations. Seventy-two physicians were appointed and many of them assumed positions of key leadership and responsibility in the planning.

This large committee organization was designed so that it could function under the direction of an executive committee and 12 subcommittees. The responsibility of the executive committee was that of guiding the complete mental health study, as well as serving as a liaison between the staff personnel and the governor. The policy-making decisions were also the responsibility of this committee.

This 12-member executive committee had as its chairman, Kirk Mosley, M.D., Commissioner of Health. Other members were: Joseph Duer, M.D., Past-President of the Oklahoma State Medical Association; Harlan Thomas, M.D., President of the Oklahoma State Medical Association; Bruce Carter, Ph.D., President of Northeastern Oklahoma A. and M. College and President of the Oklahoma Mental Health Association; Hayden H. Donahue, M.D., Superintendent of Central State Hospital, Norman; E. T. Dunlap, Ph.D., Chancellor of the Board of Regents for Higher Education of the State of Oklahoma; Mr. Milton B. Garber, Past-President of the Oklahoma Press Association,

Enid; Albert Glass, M.D., Director of the State Department of Mental Health; Oliver Hodge, Ph.D., State Superintendent of Public Instruction; Honorable J. D. McCarty, Speaker of the Oklahoma House of Representatives; Mr. Ted Parkinson, Chairman of the State Board of Affairs; Mr. Lloyd E. Rader, Director of the Department of Public Welfare; and Honorable Basil R. Wilson, State Senator.

The Mental Health Planning Committee was divided into 12 subcommittees. These 12 subcommittees and their chairmen were: Aging, John DeVore, M.D., Oklahoma City; Alcoholism, William T. Holland, M.D., Tulsa; Adult Mentally Ill, Edwin Fair, M.D., Ponca City; Emotionally Disturbed Children, James T. Proctor, M.D., Tulsa; Delinquency, Ted Baumberger, Ph.D., Oklahoma City; Financing, Eugene Swearingen, Ph.D., Stillwater; Legal Aspects, Mr. Daniel G. Gibbens, University of Oklahoma School of Law, Norman; Manpower, James Mathis, M.D., University of Oklahoma School of Medicine, Oklahoma City; Mental Retardation, Sylvia Richardson, M.D., University of Oklahoma School of Medicine, Oklahoma City; Professional Standards, George H. Guthrey, M.D., Oklahoma City; Regional Task Forces, Joe E. Timken, Ph.D., Norman; Research, Jay T. Shurley, M.D., Oklahoma City.

These subcommittees met regularly over a period of two years. They did independent studies of their own and utilized information given them by the Regional Task Force Subcommittee, whose job was to survey at the grass roots level the local communities and turn their findings over to the subcommittees directly concerned with the particular

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*Doctor Fair's medical affiliations include the American Psychiatric Association, the Mid-Continent Psychiatric Association, the American College of Surgeons and the American College of Chest Physicians.*



facet of the mental health and illness program.

The subcommittees studied their data and presented their reports in preliminary form to the executive committee on August 10, 1964. After reviewing the 12 subcommittee reports, the executive committee directed: (1) That the staff of the Oklahoma State Department of Health for Mental Health Planning should reduce the subcommittee reports into a single composite document for submission to the entire membership of the Oklahoma Mental Health Planning Committee, and (2) that the staff develop a separate section of overall principles for the development of a system of community-based mental health services. Final instructions were given and comments made relative to preparing subcommittee reports for the Oklahoma Mental Health Planning Committee. These were as follows: (1) Make no recommendations that would change the responsibility of state agencies. The purpose is to build up community-based services, not state agencies. Community-based services should be community controlled and operated. The state and federal government should help. (2) Make no recommendations that suggest any existing mental health services will have less money to operate on than it does now. It was commented that it was neither practical nor judicious to suggest reducing state hospital budgets in order to finance research or manpower development, or community health services. New services are going to require new money, some from local sources, some from federal sources. Doubtless, some will be needed from state sources to help get things started and sustain them. The matter of state sources is up to the people directly through their elected representatives. (3) The document should be concerned with community services only. It was observed that the State Mental Health Department knows its own needs and is perfectly capable of making them known to others. (4) The document should present a set of principles for implementing the community mental health services that are needed across the state. The comment here was that the details of the implementation should be left to the communities and the state

agencies now responsible under the law. The last instruction was that the staff should work closely with the Legislative Council on Mental Health and Retardation. The thought behind this instruction was that this would provide an orderly method for getting the plan before the legislature.

In keeping with the instruction for the staff to reduce the subcommittee reports into a single document, Edwin Fair, M.D., Consultant in Mental Health to the Oklahoma State Health Department, and Mr. Jack Boyd, Director of Planning for Mental Health, Oklahoma State Health Department, achieved this goal. This document was submitted to the executive committee in October, 1965.

Using information obtained by the Mental Health Planning Committee the Oklahoma State plan for construction of comprehensive community mental health facilities as required under the Community Mental Health Centers Act of 1963 was approved by the National Institute of Mental Health June 16, 1966.

The 30th Oklahoma Legislature was one of the most productive sessions in the state's history as far as mental health is concerned. Its enactments combined with those of the United States Congress provide a strengthened legal foundation from which to proceed toward a long range goal of community-based mental health and mental illness services in Oklahoma. Many of the state's enactments originated from recommendations made by subcommittees and the Task Force of the Oklahoma Mental Health Planning Committee. The legislature passed some 20 acts which have specific mental health implications. I shall mention two as they are related to community mental health.

The Senate Bill #175, adopted in 1963, Section 10, called for the establishment of Regional Guidance Clinic Centers designated by the State Board of Health. These can be on a regional basis, but the region shall be in a county having a County Department of Health or participating in a cooperative District Department of Health. The act gave the State Board of Health the authority to adopt rules, regulations and standards for operation of these centers. It also made provision for fees collected to be remitted to the State Commissioner of Health and deposited

in a special account in the State Treasury. These fees are to be used by the State Commissioner of Health to provide guidance services in the region from which they are derived. At present these regional multi-county areas center on the following major communities: Ada, Oklahoma City, Lawton, McAlester, Muskogee, Ponca City and Shawnee. Services are provided to the surrounding communities in the area. Communities outside the established guidance center regions providing community mental health services include: Altus, Ardmore, Claremore, Norman, Sapulpa, Stillwater, Tulsa and Woodward. These receive small financial assistance from the State Health Department.

House Bill #316 adopted by the 1965 legislature provides for the appointment of a combined community mental health centers and other health facilities council to advise the state agency on the community mental health plan. The Oklahoma Executive Committee recommended that a permanent committee be established to continue in Oklahoma's long range mental health planning.

While the long range plan for Oklahoma's Mental Health consists of 132 pages, as summarized by the staff in the Department of Mental Health of the Oklahoma State Health Department, there are ten pertinent conclusions that can be extracted from the subcommittee reports and 18 recommendations which were made for Oklahoma's long range plan for mental health.

The ten conclusions substantiated by findings are as follows:

1. Mental and emotional disorders are Oklahoma's most extensive, varied and generally unmet health problem. Their impact on daily living in our society warrants continued public concern, planning and action.

2. There is no reason to predict that the incidence or prevalence of mental disorders will diminish or that their accompanying problems will abate in the future.

3. Oklahoma's public mental health programs are inadequate. The characteristics of patients entering state mental hospitals are changing, and these institutions must redefine their roles constantly. To make full use of institutions and professions which have long had primary community responsibility for health, law and order, and educa-

tion, community based programs of care and support for the mentally ill are urgently needed.

4. Society will depend increasingly upon community mental health guidance for alternative solutions to problems for which there are no pat answers, or for which answers that once worked are either no longer widely practiced or are ineffective.

5. Oklahoma's long range mental health goal must be to control mental disorders in the general population. This is most likely to be accomplished through progressive medical leadership and the development of community based mental health services sufficient to meet most community mental health needs. Services needed must be dependably and understandably available to all people.

6. Until an adequately funded, organized research program is initiated, developed and maintained, Oklahoma cannot expect to have the most prudently obtainable mental health and mental illness programs and services that the citizens and institutions of this changing state require.

7. Considerable additional financing is justified and will be required if a comprehensive system of mental health and mental illness programs and services is to be developed and maintained. This financing must come from multiple sources, with major increases from federal, state, and insurance sources.

8. Although increasing numbers of mental health professionals are being trained in Oklahoma, not enough are being retained in public mental health programs to meet present or future needs. The numbers of appropriately trained and retained psychiatrists, psychologists, social workers, counselors, special education teachers and physical therapists should be doubled during the next decade. In addition, provision must be made for the training and retention of psychiatric nurses, public health nurses, occupational and recreational therapists, administrators and a variety of mental health and home care aides.

9. Oklahoma is changing rapidly in many ways. Mental health services must be located where the people are. Mental health and mental illness programs must be flexible enough to adjust to needs and solve problems as they are and where they are. The Com-



munity Mental Health Centers Act of 1963 and its subsequent amendments should accelerate the provision of much needed community mental health services in Oklahoma.

10. No single official or voluntary agency or association can be expected to develop and maintain on a statewide, regional or community basis the full range of services a comprehensive mental health program requires. The cooperative and coordinated efforts of all official and voluntary agencies and associations at all levels of service and jurisdiction are required.

Based on these conclusions, the following recommendations were made:

1. Physicians, together with ministers, educators, attorneys, officials and members of mental health and mental retardation associations, should lead their communities to recognize the effects of mental disorders upon community living, and should organize and participate in area and community efforts to develop and strengthen programs and services which will contribute to mental health and which will enable each community to solve more of its own mental health problems.

2. Statewide mental health planning should be the continuing responsibility of a state mental health council.

3. The Mental Retardation Facilities and Mental Health Facilities Construction Act of 1963 should activate on a statewide basis by the preparation of state plans by the State Department of Public Welfare For Retardation and the State Department of Health for Mental Health, as provided by state law.

4. The purpose of actions with respect to services for the mentally and emotionally ill should be to provide as many as possible of the following elements of the interrelated services in every area and, ultimately, in each community in the state.

Inpatient Care

Partial Hospitalization

Outpatient Care

24-Hour Emergency Service

Consultation and Education

Rehabilitation

Training

Diagnosis

#### Precare and Aftercare Research and Evaluation

5. After interstate negotiation, appropriate state legislation should be adopted which will permit the development of the foregoing services by communities located in more than one state.

6. The purpose of actions with respect to services for the mentally retarded should be to provide an opportunity for each retarded individual to attain his highest potential through an overall program of accessibility.

7. The State of Oklahoma should construct and operate or take a beneficial interest in the construction and operation of Comprehensive Mental Health Centers to serve populations of 75,000 to 200,000.

8. State mental hospitals should be supported and encouraged in their efforts to continue to develop a therapeutic milieu correlated with community programs.

9. In keeping with the advances in psychological medicine, Regional Guidance Centers should be developed by state and local health departments as provided by state laws which permit several counties to combine their resources and efforts to provide community education and consultation, prevention and early detection, rehabilitation, training, diagnostic, and outpatient services.

10. The State of Oklahoma should construct and operate, or take a beneficial interest in the construction and operation of Regional Health and Health Related Service Centers in communities which are medical, trade, and economic areas. The function of these centers should be to house the personnel and operations of official and, to such extent as possible, voluntary agencies providing Health and Health Related Services to people.

11. Financing for mental health and mental illness programs and services should be derived from multiple sources, including fees paid by the patient, third party payments, such as insurance and pre-payment plans, local tax levies, state appropriations for the provision and purchase of direct services, and federal grants-in-aid.

12. The allocation of funds to the appropriate departments within the colleges and universities of the Oklahoma system of higher education should be increased sub-



stantially to permit the education and training of increased numbers of mental health and mental health related professionals in the next decade.

13. Five per cent should be added to the operating budgets of all Mental Health Facilities and Services and earmarked for in-service training grants for mental health and mental health related professionals.

14. The postgraduate course in psychiatry for physicians in Oklahoma's communities should be increasingly supported and continued by the Department of Psychiatry, University of Oklahoma School of Medicine.

15. An intensive effort should be made by the State Board of Education and local school boards to fund and staff adequate numbers of special education classes in the Oklahoma public schools.

16. The public and parochial schools in Oklahoma should be encouraged to include, at appropriate levels in their curricula, alcohol education and consumer education.

17. The State Department of Health should develop, with appropriate official and voluntary agencies, a statewide community based program for the control of alcoholism.

18. Appropriate reporting systems and registers which do not invade individual rights to privacy should be developed for delinquency, birth defects and mental disorders by appropriate official agencies.

In the description of the legislation enacted at the federal level, we described the Comprehensive Mental Health Centers with the five necessary services: Inpatient care, partial hospitalization, outpatient care, 24-hour emergency service and consultation and education service. These are to serve population areas of from 75,000 to 200,000. They would be located upon the ability of the given community to staff the comprehensive center, the medical facilities available and the trade area served.

A state plan has been developed by the State Health Department. It creates 16 mental health communities across the state. Four of these center on Oklahoma City. Four center on Tulsa. One each centers on Ada, Ardmore, Clinton, Muskogee, Lawton, Enid, McAlester, and Ponca City. Two of these communities have developed plans and have received federal grants to build needed facilities and help pay for a new staff for 51

months. Both of these are in the Oklahoma City region. One community in the Tulsa region and the Ponca City community are developing plans and grant applications at this time. By the end of 1969, one-third of the state's people will have comprehensive, community-based mental health and mental illness services available to them locally.

The State of Oklahoma is paying the full local cost of one center located near the present State Mental Hospital in Norman. This is the first step by the State Mental Hospital System to correlate its institutions with community programs.

The comprehensive centers differ from the Regional Community Mental Health Centers as provided by state law. These facilities do not provide inpatient hospital care. There are several of these in existence now under the direction of the Oklahoma State Health Department.

The main difficulty in creating the Community Mental Health Clinics falls into two categories — financing and staffing. These do not qualify for the federal grant to pay for staff salaries as do the Comprehensive Mental Health Centers. Financing can be arranged in two ways at the present time. In 1959, the Oklahoma Legislature passed a bill permitting the county commissioners of a given county to allocate one-half mill to create and operate a community mental health clinic. In addition to this, financing can be obtained under the bill mentioned previously which created the Regional Mental Health Centers of the State Health Department. State funds are available to augment local funds. These state funds are provided through the Oklahoma State Health Department by legislative action.

Finally, some comment needs to be made concerning the activities of physicians of the State of Oklahoma in mental health. After each of the Chicago conferences sponsored by the American Medical Association, there were follow-up conferences sponsored by the Oklahoma State Medical Association. The first was a planning conference for physicians only. The second in 1961 was one to which all interested citizens in Oklahoma were invited. A total of 1,200 people attended this conference. There has been a co-operative effort by the Oklahoma State Health Department, the Department of Men-

tal Health, the School of Medicine, the Oklahoma District Branch of the American Psychiatric Association, the Oklahoma State Medical Association and the Mental Health Association in this effort. The third statewide meeting with the same groups participating was held February 9, 1967.

In the School of Medicine, there is now a nine-months' training program for physicians who meet once weekly for an afternoon and evening to learn the basic fundamentals in psychiatry as they are applied to their daily practice.

In addition, the Oklahoma District Branch of the American Psychiatric Association and the Oklahoma Academy of General Practice, in keeping with the projected program of these organizations at the national level are working cooperatively in deciding the role of the Oklahoma physician in community mental health. Since there is a shortage of psychiatrists to serve the Community Mental Hygiene Clinics that are established, physicians who have had the course at the school of medicine are called upon in the region in which they live to serve in a consultative capacity.

At the suggestion of the Oklahoma Academy of General Practice and the Oklahoma District Branch of the American Psychiatric Association, a Steering Committee has been created through the Committee on Mental Health of the Oklahoma State Medical Association in the interest of the expanding program for community mental health of Oklahoma. These services will be coordinated with the inpatient hospital care as provided by the Department of Mental Health of the State of Oklahoma. It is the desire of the physicians in places of responsibility in planning for mental health in Oklahoma to work with all groups in the interest of the citizens of Oklahoma so their needs can be met adequately in keeping with the developments, not only in community mental health, but in the whole area of psychiatry.

#### SUMMARY

(1) There has been a shift toward treating the individual with emotional illness in

his own community instead of relying completely on large public mental hospitals.

(2) The traditional medical credo of prevention of illness when possible, minimizing illness to the greatest extent and reducing disability, is applicable to mental illness. It is the goal in community psychiatry.

(3) In community psychiatry we use the team approach, using the services of the psychiatrist, clinical psychologist and psychiatric social worker.

(4) Other people in the community, such as the family physician, school counselor and public health nurse, are important members of the team.

(5) While the main focus, with limited professional people available, is in prevention and short term treatment, as staff personnel become available, hospital care is included.

(6) In 1963 Congress passed the Community Mental Health Centers Act for the construction of Comprehensive Mental Health Centers. The federal share for construction ranges from one-third to two-thirds of the total cost. In Oklahoma our share is 59.02 per cent.

(7) Under this act, five essential elements of Mental Health Services must be provided: Inpatient services, outpatient services, partial hospitalization, emergency services on a 24-hour basis, and consultation and education services to the community. Five other elements are also suggested.

(8) Under this act all services do not have to be under one roof, but there must be a continuity of patient care from one group to the other.

(9) In 1965 Congress passed a bill providing for federal grants to pay the initial salaries of the staff of Community Mental Health Centers. These payments start at 75 per cent of the salary of the eligible staff for the first 15 months; 60 per cent for the first subsequent year; 45 per cent, the second; 30 per cent, the third; and can be extended at 30 per cent for an additional three years.

(10) Under the Medicare Bill, psychiatric services are available for both inpatient and outpatient care. For the indigent there is coverage for any age group—not just those over 65.



(11) In 1963 the Oklahoma Legislature passed a bill which established Regional Guidance Centers designated by the State Board of Health. This gave the State Board of Health authority to adopt standards for operation of these guidance centers. There must be a cooperative effort with the county or district health departments, several counties may combine to form a region.

(12) In September 1963, the Oklahoma Mental Health Planning Committee was created by Governor Bellmon. The Oklahoma State Health Department, which is the Mental Health Authority in Oklahoma, was designated by Governor Bellmon as the administrative agency for the Community Mental Health Program.

(13) The Oklahoma Planning Committee recommended the construction of Comprehensive Mental Health Centers to be fi-

nanced from multiple sources: Fees from patients, third party payments, such as insurance, local taxes, state appropriations, and federal grants-in-aid.

(14) The Regional Community Mental Health Centers created by law in Oklahoma do not include inpatient care. While they may have such a program, those now operating do not have this service.

(15) One Comprehensive Mental Health Center is operating at Griffin Memorial Central State Hospital, construction funds have been approved for one at St. Anthony Hospital in Oklahoma City, and applications are being prepared for centers in Tulsa and Ponca City.

(16) The physicians in Oklahoma are providing leadership in the developing program of community psychiatry. ☐

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# Treatment of Emotional Problems in Childhood

## Part II\*

POVL W. TOUSSIENG, M.D.  
MARSHALL D. SCHECHTER, M.D.

*An attempt at clearer definition and  
assessment of many of the main  
treatment modalities in contemporary  
child psychiatric practice.*

### PHARMACOTHERAPY

THERE ARE so many psychotropic drugs and such copious literature that it is impossible to do justice to these drugs by listing them individually. Much of that can be learned by reading about them anyway. The discussion of use of drugs by Barbara Fish<sup>3</sup> is particularly enlightening. Only a few general statements will be made here about the context in which drugs can be considered and a point of view expressed as to the place of these drugs in an overall treatment plan.

There are no drugs so difficult to dose as the psychotropic medications. This is true for adults but it is especially true for children. None of these psychopharmacologic drugs is curative. They do provide, when given for certain "target" symptoms, some relief, but most often, if not combined with

a psychotherapeutic approach, tolerance develops and the drug effect wears off.

Effective dosages may well be close to toxic levels. Drug companies quite correctly recommend small starting dosages with gradual increases until symptomatic relief is obtained. However, this takes considerable time during which the patient still has his symptoms. The literature contains testimonials to the beneficial summative effect of combinations of drugs. However, these combinations are difficult in work with children, because one or another component may reach a toxic level. As in adults, drugs for the relief of behavioral symptoms in children must be administered with precautions against potential side effects. Although blood dyscrasias occur as one of the serious hazards, the most frequent adverse "side effect" is that the parents and even the child begin to rely increasingly on the drug and less on the need to uncover the genetic, causal agents which began the illness. This leads to a complete dependence on the medication (which is not curative) and when the medication begins to have less effect, the hostility of the parents often is turned toward the doctor resulting in discontinuance of treatment.

Understanding the pharmacologic actions of drugs obviously is necessary for proper selection. But of at least equal importance is the need to understand the dynamics of a given disorder to gain the greatest effect of

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the medication selected. For example, sleep disturbances are extremely common between the ages of two and four. This problem, which may be so upsetting to an entire household, is quite often presented to the physician for treatment. (Parenthetically, obsessive rituals, phobias, anxieties, regressions, are other frequent transient phenomena during early childhood.) The physician then has recourse to several approaches to the problem: (1) He might (of course after a thorough physical examination to rule out organic pathology) reassure the parents and do nothing. (2) He might prescribe some sedatives for the parents so they may sleep comfortably through the crying periods. (This technique strange though it seems, has been used with a modicum of success for colic.) (3) He might administer some medication to the child.

The first two alternatives present no particular problem. It is the third which presents the therapeutic dilemma. The oldest, perhaps safest, and certainly the drug with which the physicians have the greatest experience, is phenobarbital and this is the drug most often prescribed for sleep disorders as well as a host of other problems. However, dynamically, the child between two and four who is unable to go to sleep or, once asleep, awakens at night, often is afraid that the hypnagogic or sleep state will weaken his ego controls and leave him with a feeling that he may "lose" himself. Administration of a barbiturate aggravates this fear by further impairing the ego's controls. This creates more anxiety which further restricts sleep, and the drug proves ineffective. If then one were to elect some medication to help with sleep problems at this age, it would be far more effective to use a drug (like meprobamate or diphenhydramine) which cuts down on anxiety factors and in this way helps ease the child into sleep. However, even then the question still exists whether at this age drugs really are needed for this particular problem so characteristic of normal development.

Nowhere is there more controversy than in the pharmacotherapy of enuresis. It is our impression that the success of drugs frequently is due to a placebo effect, if not on the child then on the parents. Furthermore, in most instances, enuresis is a signal

that the child is grappling with a conflict which has become too big for him. In this respect enuresis may be compared to fever in somatic illnesses. Just like bringing the fever down alone will not cure *e.g.* a pneumonia, so the removal of the "offensive" symptom of enuresis will not remove the child's underlying dilemma, which then inevitably must give rise to another, maybe more crippling, symptom, *e.g.* inability to learn in school. Far too often drugs are thus used in enuresis only for the convenience of the parents, but at the expense of the child.

In summing up, we want to stress again that drugs do have a definite place in the treatment of many behavioral disorders in childhood, but that they must be used in a specific way for specific purposes, based on the dynamics of the child's disturbance. Furthermore, particularly in the more psychogenic disorders of childhood, drugs can alleviate but not resolve underlying conflicts, so that other treatment modalities, *e.g.* psychotherapy, must be added before the drug effect wears off. Drugs should not be prescribed if it is likely that the parents will use the prescription of drugs as an excuse not to take other recommended action to help the child (such as following through on a psychiatric referral).

#### EXTERNAL FACTORS INFLUENCING CHOICE OF TREATMENT

A number of external reality factors, not directly related to the child or his family can influence the choice of treatment. The lack of availability of a residential treatment center, a long waiting list, other limitations of professional time, lack of staff training in therapeutic work with children, or in certain treatment modalities such as speech therapy, group therapy or family therapy, financial status and source of support of a given clinic and many other factors may make it impossible to choose certain treatment methods which otherwise would be ideally suited to meet a certain child's needs. Referring physicians who have found themselves blocked by waiting lists, clinic policies and the attitudes and views of psychiatric colleagues may wish to know something about the dilemmas facing psychiatrists in these matters. In his thought-provoking



paper previously mentioned, Jules Coleman<sup>2</sup> discussed the tendency of clinics who train psychiatrists, psychologists and social workers to use individual psychotherapy as the only treatment approach. He states, "Although there are certain exceptions, the tendency of such (training) clinics will be to give preference to a treatment procedure which lends itself more readily to intensive supervision and to better control of the training process. In such training clinics, less attention may be paid to the value in many cases of treatment procedures which are referred to as 'indirect' or as 'environmental manipulation.' These procedures involve efforts at direct guidance, and make use of such techniques as rational discussion, review with the patient or the parents or other interested persons of the life situation, and planning for modification of elements in the life situation on the basis of psychological understanding." Doctor Coleman goes on to point out that "diversification of treatment methods is . . . also in maintaining community status and support for the clinic."

However, this statement fails to recognize that community clinics which are used for training purposes (child psychiatry, general psychiatry, psychologists, social workers, etc.) often find themselves in a technical bind. The training (and sometimes research) function often dictates intensive individualized care in order to give the trainee a microscopic view of pathology and a detailed method for reconstruction. This is a prerequisite before the trainee can usefully expand his therapeutic armamentarium. These training functions thus at times must take precedence over the service functions of a given clinic. Yet, the training functions are vital in solving the problem of increasing psychiatric services to children. It should be noted that the subspecialty of Child Psychiatry created in 1959 at present has only 450 Board Certified Child Psychiatrists in the entire country. Therefore many clinics, including those affiliated and not affiliated with medical schools, have the obligation to prepare as many professionals for work in the care of emotional problems of children as they possibly can. (Mike Gorman, president of the National Committee Against

Mental Illness recently stated that there are four million American children with emotional problems severe enough to require help.)

Doctor Matthew Ross,<sup>3</sup> during his tenure as Medical Director of the American Psychiatric Association, has pointed up another dilemma of clinic staffs: "In acknowledging the importance of clinics, it is necessary to understand that a psychiatric clinic *in and of itself cannot hope to provide the total solution for all community needs*. The first need is delineation of those community needs which, in cooperation with other services already existing or to be developed, the clinic *can* meet. The abilities and talents of the clinic staff can then be dovetailed into the total mental health services. Unless the clinic gives community needs priority, community support will be negligible and difficulties will be large. Since these needs change constantly, the clinic must be able to adapt itself to these changes, and this kind of flexibility must be built into the administrative standards of all clinics." (Italics by these authors.)

In other words, the clinic staff must also keep the community in mind while determining how to meet an individual child's needs. Thus, the staff may decide that long-term individual psychotherapy, particularly therapy which will require seeing children more than once a week, cannot be done at all, or only to an extremely limited extent, *e.g.* only as a training function. A given child requiring such intensive help may then have to be referred elsewhere instead, but if no other treatment resources are available to the family, this, in essence, means the refusal of all help. The family physician knows better than anyone the desperate situation in which these families may find themselves when they know there is help for their child, but they cannot get the help. It is not just a problem of no help, but on top of everything else it often happens in these cases that the child also is refused schooling by the local school system. We in psychiatry are deeply concerned about this, but we cannot solve these problems alone. They must be solved on a community level, and we welcome assistance from our colleagues in other areas of medicine in getting communities to take action.



However, there is another factor which often is overlooked in making treatment recommendations to families. While the child's own needs *e.g.* may clearly indicate a need for residential treatment, the family's financial situation, or a waiting list of several years for admission to state residential treatment facilities, may well make such a recommendation academic and only load the family down with further pain, guilt and frustration. A similar iatrogenic burden can be placed on a family by making recommendations which they have no strength to support. If a treatment program is set up which involves attending a special classroom across town, speech therapy elsewhere, psychotherapy at a clinic, and medical attention from a pediatrician at his office, a mother, who may have other, smaller children, may be reduced to frazzles by having to keep up with such a schedule, while having to be a housewife and mother, too. Or we doctors may offer the child or the family a treatment which has no real meaning to children and parents from the lower socioeconomic strata. Hollingshead and Redlich<sup>5</sup> have demonstrated in an impressive way how the middleclass values of professionally trained people influence the way they see members of the lower socioeconomic classes and how their views result in professional pessimism as to the treatability and prognosis of patients with little education and a low degree of sophistication. If children from slum areas or other deprived areas are asked to participate in procedures which have no point of reference to the reality they and their parents know, they cannot grasp the need for their participation and they then may seem like poor prospects for help. However, this is not evidence of their inability to accept help or to change, but evidence that the help offered was not sufficiently related to the need as perceived by the child and his family or couched in terms that were acceptable and understandable to them. It is like offering an American child therapy in Chinese or Swahili, or to recommend to a non-reader that he take a correspondence course in reading.

Recognition of this fact has, for example, led to successful attempts to influence young gang members in large cities through the use of "street workers," *i.e.*, professionally

trained people who contact the youngsters on the street and in their usual hangouts. It has also led to an increasing emphasis on the use of group therapy in the treatment of juvenile delinquents, because many of these youngsters do not have the ability to tolerate a close one-to-one relationship with an adult (which many of them have never experienced) or do not even know how to talk to an adult. In a group, they feel more at ease because of the presence of peers, because the group can use its own vernacular, which the group therapist must master or learn quickly, and because the group does not demand any display of an individual identity which these youngsters have never managed to establish. Adapting the treatment in this manner to the children whom it is supposed to reach has led to quite satisfactory results. Thus, we must see that the help we want to offer reaches out to where people are in their life situation and adjustment, and we cannot demand that our patients accommodate to us and to our pet special helping techniques. We cannot demand that they understand our special language or that they must understand us—we must understand them.

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*Listed among professional organizations to which he belongs are the American Association for Child Psychoanalysis, the American Psychoanalytic Association and the Society for Research in Child Development.*

Other, and not at all infrequent, problems arise when all or most of the family members are taken into individual psychotherapy because of their severe personality problems, and no other additional modalities of treatment are recommended. Ackerman,<sup>1</sup> the eloquent voice of a major school of family therapy, states: "It seems increasingly apparent that individual therapy cannot be the sole answer to the mental health problems of our time. When each member of the family is given individual treatment and these therapies are not related to one another, the effects on the family are all too often indirect and nonspecific."

With these words, he points to the crux of the matter: We cannot determine the treatment plan until we have spelled out clearly the goal of our efforts, and until we have related these goals to the actual reality of the child and the family we want to help. If we take the individual family members into individual psychotherapy, we have an individual goal for each family member, but we cannot, via that goal, set a goal of improving sick family relationships, as individual psychotherapy deals with the resolution of internal conflicts, a resolution which does not at all necessarily lead to improved social skills and a better social role. Therefore, another goal, that of helping the family to improve as a group, must also be taken into consideration and enter into the total treatment planning. This becomes so much more necessary because we now have ample evidence from sociological studies that the family member who is designated as the patient by no means is the "sickest" member of the family and often is chosen because he was felt by the family to be the one who would have the greatest ability to bring help and relief to the total family.

Spelling out the goal is also important in other ways which we already have touched on. We members of a helping profession sometimes get carried away by our roles as helpers and begin to feel that we have not done our jobs until we have brought complete and eternal bliss to a situation where there used to be pain and constant turmoil. This can sneak up on all of us, and is present much more frequently than we like to admit.

It is apparent in our inability to accept limited goals, because we can always see or think of one more conflict or difficulty our patient has not yet resolved or "worked through." It is also seen in the contempt or disapproval we express toward those of our colleagues who try to see and work with many more patients within a certain time span than we do. In clinics the doors are frequently controlled by so-called "intake policies," and the clinic staff then can get so busy with a few charges who "take so much out of the staff" that no energy is left to remember the long line of children and families waiting on the other side of the locked front door. Pollak<sup>6</sup> states about this: "To free oneself from the unrealistic assumption that one is responsible for pervasive and persistent happiness in another human being, even if this individual is one's own child, should be within the reach of the emotionally normal person."

It may seem as if we are being contradictory. We stated that the needs of children and their families should be elicited and met, and yet now we may seem to be implying that less than a perfect job should be done in order to reach more patients. The contradiction is only apparent, because it is possible to take all the needs presented by a child and the family into consideration without having to take them all the way to eternal happiness. What we see in a disturbed child is that the capacity for growth and maturation has become blocked to a lesser or greater degree, and that the child, therefore, cannot use the strength available to him to function adequately in his daily life. In the same way, a disturbed family has become blocked in performing its vital functions of providing the family members with channels for the reception and giving of dependency and gratification, of strengthening each family member's feelings of self-worth and self-identity, of encouraging and supporting contact with the world outside the family, to absorb sexual and aggressive drives and impulses sufficiently that they can be controlled, to provide adequate, consistent controls for the children, etc. Neither in individuals nor in families will removal of the blocks to functioning necessarily nor invariably lead to happiness, but, at least, there are again some areas where the individual



and the family can experience and use strength constructively and thus again receive a certain amount—but also a crucial amount—of *real* gratification. If we want to take individuals and families beyond this point, it may be possible to do so. However, this usually requires such a major effort that it rarely can be done inside the context of private practice. In a community clinic, which, as already mentioned, also serves the community as best it can, the aim of treatment cannot go much beyond the “restoration and function and the initiation of the individual’s capacity for growth and maturation” as Emmy Sylvester<sup>3</sup> spelled out many years ago for individual therapy. This definition still leaves open to what degree function will have to be restored. If it is not restored completely, many colleagues and parents of children often are disappointed. Here we would like to remind our readers that in orthopedics complete function cannot always be restored and yet everyone is relieved when at least some function has been brought back. It must also be kept in mind that the human mind has an incredible resiliency and can show much growth potential after a person has received assistance “to get over the hump.” Knowingly or unknowingly physicians in general practice give much of this type of assistance and they are often in the best possible strategic position to give such help without provoking too much regression, which if it occurs, may prolong the treatment period and may jeopardize a positive outcome. Long practice has convinced the authors what many general practitioners have known for many years that we can safely trust the strength of our patients once they are beyond a certain point and that greater efforts must be made to learn more about ways of getting patients off to a good, strong start. We should depend on this momentum while attempting to help patients reach the goals they wish for themselves. Often we ride down the road with the patient, holding on to the wheel, and never letting the patient have it until the goal is reached. Thus, we deprive the patient of the opportunity to realize and use his own inherent strengths. When the patient is a child this is even more tempting. We do need to allow children occasional regressions and must meet their

basic dependency needs, but they, too, can be helped to work out their own goals and can do quite a bit of legwork themselves.

#### SUMMARY

In summing up it should be stressed again that whatever treatment method is to be used with an individual child has to be based on a multitude of considerations and that the final decision involves a great deal of responsibility. It is the duty of the physician to search for the ways in which a given child or a given family can be helped best. If the child is referred to a clinic and the clinic accepts the responsibility for study and diagnosis of the child, it is also that clinic’s responsibility to use whatever treatment resources that can be found. In a number of instances it may well be the referring physician himself who is the best available treatment source. (Hopefully he will not feel, in this instance, that he has been “stuck” with the problem again.)

In choosing treatment methods we must remember that it is the content and strategy of the treatment method chosen which possibly will help, not just the name of the procedure. Thus, we must be alert to the possibility that what is called “psychotherapy,” “group therapy,” “family therapy,” etc., in certain centers may be fairly empty gestures. Treatment modalities become meaningful only as they are used in a planned, specific way on the basis of thorough psychological understanding of the patient. The measures must be adapted to where the child and his family are in life and must have meaning to the patients in terms of their values and further growth and maturation, but do not necessarily have to aim at making them more happy. At the same time the physician needs to define clearly for himself what treatment measures can—and which ones cannot—be offered by him, just as a clinic is limited in what treatment it can offer by the clinic budget, the patient load, staff training and experience, etc.

The main considerations entering into the choice of treatment have been well stated by Doctor J. Cotter Hirschberg,<sup>4</sup> whom we, therefore, would like to quote in closing:

1. Consideration of the degree of modifiability of all persons exercising pathogenic influences.



2. Necessity of predicting the type of interaction which personality development of the child under therapy probably will produce on the part of other members of the family, particularly on the part of those members who hold greater social power than the child. In that respect, special attention must be paid to the possibility of creating conflict between parent and child which might result in negative interaction between them.

3. Realization that a particular disturbance may be the result of a constellation of factors.

4. Recognition of the fact that forces conducive to help can be trusted to operate also outside a therapeutic relationship, that it may be necessary only to help the child overcome his disturbance to a degree that will enable him to use these resources.

5. Recognition of the fact that socialization is a process which might be accomplished to different degrees of success, that even partial removal of incapacitation or partial emotional relief may be considered a therapeutic gain. □

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800 N.E. 13th Street, Oklahoma City, Oklahoma

## ABSTRACTS

### GLUCOSE TOLERANCE, NUTRITION, AND DIABETES IN URUGUAY, VENEZUELA, MALAYA, AND EAST PAKISTAN

In these countries glucose tolerance tests were used to determine the prevalence of diabetes. A two-hour venous blood glucose level greater than 149 mgm. per cent after an oral glucose load of one gm/kgm. body weight was considered diagnostic of "diabetes." The following prevalence rates were observed: 6.9 per cent in Uruguay, 7.3 per cent in Venezuela, 3.5 per cent in Malaya, and 1.5 per cent in East Pakistan. Using these methods on a volunteer group in Pennsylvania the comparable rate was found to be 17.2 per cent.

The diet in Uruguay is typically "Western" being high in calories, animal protein, and fat. In East Pakistan only 10 per cent of the caloric intake came from protein, 29 per cent of the dietary fat was animal fat, and 83 per cent of the calories were from carbohydrate.

The authors had no definite conclusions about the quantitative or qualitative correlations between the characteristics of the diet and the susceptibility to diabetes. However, the most consistent relationship was between overnutrition and prevalence of diabetes "regardless of the source of the calories."

A very interesting description of a carefully planned study.

Glucose Tolerance, Nutrition, and Diabetes in Uruguay, Venezuela, Malaya, and East Pakistan. Kelly M. West, M.D. and John M. Kalbfleisch, M.D., *Diabetes*, 15(1): 9-18, 1966.

### SOCIAL CHARACTERISTICS OF PATIENTS WITH CORONARY ARTERY DISEASE

The following characteristics have previously been attributed to the coronary patient: Hypertensive, obese, white-collar urbanite who is highly mobile socially and geographically, frequently changes jobs, smokes, and who has an insatiable drive to succeed in spite of numerous blocks in reaching his goal.

This study utilized volunteers in the Neurocardiology Research Project at the University of Oklahoma Medical Center to evaluate objective social data, occupation, income, leisure time activities, educational levels achieved compared with parental levels, and areas of stress. The male coronary patients were found to be significantly different from their controls in the following values: Living in less expensive homes, lower educational and occupational achievements, and more recognition of tension. The patients had sought mobility by changing employers or marrying spouses with more education. Thus the patients were able to achieve higher level jobs than they were educationally qualified to hold and often felt heavy pressures and demands from their jobs.

The authors conclude that the most significant variables between the coronary patients and their controls are dependent on the educational levels from which occupational and educational mobility emerge.

This is an interesting evaluation and adds another facet to the increased emphasis on training and education in our society.

Social Characteristics of Patients with Coronary Heart Disease. John G. Bruhn, Ph.D., Betty Chandler, B.A., Thomas N. Lynn, M.D., and Stewart Wolf, M.D., *Amer. J. Med. Sci.*, 251: 621-636, 1966.

# Books As Clinical Tools

## CLINICAL REFERENCES ON ANTIMICROBIAL THERAPY

HARRIS D. RILEY, JR., M.D.\*

Antimicrobial agents represent in all probability the most useful and yet the most misused of all therapeutic agents in medical practice. There is little doubt that the therapeutic triumphs with these agents have changed the entire practice of medicine. This has been most noticeable in the field of pediatrics, but it has had an effect on every branch and facet of medicine. The effect of antimicrobial drugs on the shortening of illness, on the avoidance of serious complications, on the reduction of mortality and even in the prevention of illness constitute one of the greatest achievements in medical history.

The year 1965 marked the twentieth anniversary of the introduction of penicillin into clinical medicine. In the intervening years more than 1000 antibiotics have been isolated from various sources. Probably in no other field relating to therapeutics have changes occurred more frequently. For example, in 1945 only one form of penicillin was available. At the present time there are more than 150 different preparations of this drug. The recent isolation of the penicillin nucleus will make possible the preparation of an almost unlimited number of synthetic penicillins. During 1965 alone at least 26 new antibiotics were under investigation.

For a variety of reasons the physician can-

not depend on the same types of reference as guides in antimicrobial therapy that he employs in certain other areas of medicine. (1) The continuous stream of new agents for therapeutic use; (2) The rapid changes in the several parameters governing treatment of infectious disease. Thus, when considering the choice of an antimicrobial agent he must be prepared for change—changes of biologic characteristics of both the attacking organism and the human host. One can anticipate, therefore, the need for continuous search for new antimicrobial agents and continuous re-evaluation of the ever-changing relations among microbes, antimicrobial agents, and man, and (3) antimicrobial therapy is “disease rather than organ oriented.”

The physician therefore needs two basic types of references for sound antimicrobial therapy: (1) A reference source for the basic principles of infectious disease—details of the complex interrelationships of the host, parasite and the antimicrobial agent. (2) Such references cannot be revised often enough to keep pace with the new agents which are being introduced constantly. Thus, a second reference source to provide an up-to-date resume of antimicrobial agents as they become available is necessary.

For the former, there are many excellent references and only some of the major ones will be listed. Such classics are Topley and Wilson: *Principles of Bacteriology and Immunity*; Dubos and Hirsch: *Bacterial and Mycotic Infections of Man*; Horsfall and Tamm: *Viral and Rickettsial Infections of Man*; and Krugman and Ward: *Infectious Diseases of Children*, provide excellent resumes regarding the principles of infectious diseases. For information regarding more specific aspects of antimicrobial therapy,

\*Professor and Head, Department of Pediatrics, University of Oklahoma Medical Center.

One of a series sponsored by the Department of Continuing Education, University of Oklahoma Medical Center.

Jawetz, Melnick and Adelberg: *Review of Medical Microbiology* and Welch: *Principles and Practice of Antibiotic Therapy* are useful.

To remain up-to-date concerning newer available antimicrobial agents, the reader must consult weekly and monthly journals. Because such articles appear in a wide variety of journals, it is almost impossible for the average physician to remain abreast of this vast amount of literature. However, there are certain review articles concerning antimicrobial therapy which appear usually at annual or at least regular intervals and which are very useful. Among the best is the *Report of the Committee on the Control of Infectious Diseases of the American Academy of Pediatrics* ("The Redbook") which is revised usually annually and contains excellent, brief, up-to-date accounts of various infectious diseases and therapeutic methods.

*Pediatric Clinics of North America* and *Medical Clinics of North America* usually have each year a volume devoted to antimicrobial therapy. *Antimicrobial Agents and Chemotherapy*, which represents the Proceedings of the Annual Interscience Conference on Antimicrobial Agents and Chemotherapy and is published annually, is an excellent source of up-to-date information regarding new antimicrobial agents. Books which are concerned with therapy broadly and which are revised at reasonably frequent intervals include *New Drugs Evaluated by the AMA Council on Drugs* published by the American Medical Association; Conn: *Current Therapy*; Gellis and Kagan: *Current Pediatric Therapy*; and Shirkey: *Pediatric Therapy*. All of these contain good general resumes of antimicrobial therapy as well as descriptions of treatment of specific infections. □

## HELP URGED FOR STUDY OF PEDIATRIC DISORDER

THE COOPERATION of physicians has been requested in a continuing study of epidermolysis bullosa letalis, including the therapy in newborns with this fatal disorder. The program is being conducted by the Pediatric Pharmacology Unit and the Birth Defects Center at Children's Memorial Hospital in Oklahoma City.

Referral of such patients is needed and in most cases, arrangements for hospitalization without cost to the family can be made. Physicians interested in having patients considered for study may write to Arthur W. Nunnery, M.D., Pediatric Pharmacology Unit, Children's Memorial Hospital, University of Oklahoma Medical Center, 800 N.E. 13th Street, Oklahoma City 73104. □





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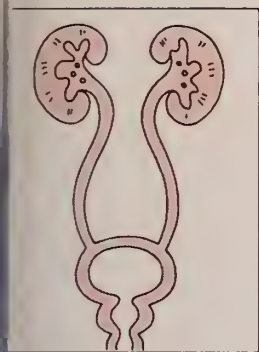
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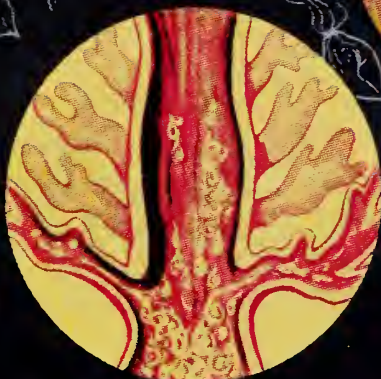
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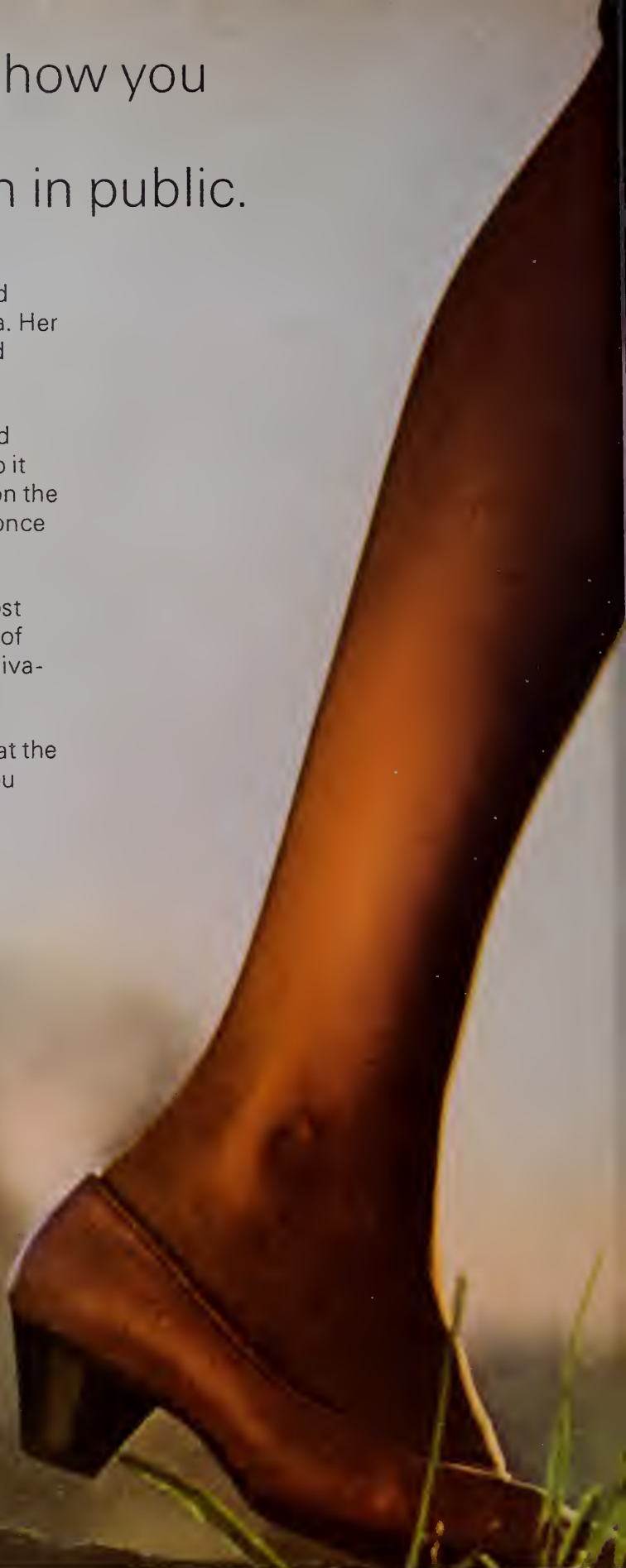
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See preceding pages for brief summary  
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## *Management of Difficult Congestive Heart Failure*

JOE T. BLEDSOE, M.D.

Fortunately for both the physician and the patient, the treatment of congestive heart failure has been aided by many medical and surgical advances reported in the past ten years. Thus, fewer patients develop "refractory or intractable heart failure."

It has long been recognized that many patients with congestive heart failure are actually better remedied by surgical intervention than by prolonged management with bed rest and pharmaceutical agents. For instance, patients with constrictive pericarditis, mitral stenosis and many congenital lesions may be completely rehabilitated by proper surgical correction of the underlying lesion.

Digitalis, diuretics and bed rest have been the major components of the physician's armamentarium in the battle against non-surgically correctable congestive heart failure. Despite the fact that digitalis is the drug of choice in every case of congestive heart failure, it should be remembered that over-digitalization can be a subtle cause of so-called intractable heart failure. Over-digitalization promotes the development of further congestive heart failure because myocardial function is actually depressed rather than enhanced. A clinical history of nausea, vomiting and color visual disturb-

ances or the onset of arrhythmias while on digitalis preparations should lead one to suspect digitalis intoxication. Although physicians are well aware of the fact that adequate digitalization in a patient with atrial fibrillation is determined by a pulse rate response of 70 or less at rest, it is also necessary to be aware of the fact that one of the earlier signs of digitalis intoxication may be tachycardia and not bradycardia.

The advent of potent diuretic drugs has made it possible to better diuresis patients and to keep them in electrolyte and fluid balance over a longer period of time. However, the combination of oral diuretics and digitalis therapy has caused an increase in the number of cases of digitalis intoxication. It should be remembered that the complication of digitalis intoxication in this situation can be prevented by adequate replacement of potassium.

Many cases of intractable congestive heart failure are due to extra-cardiac causes and these should be looked for in every patient who is not responding to what the physician considers adequate medical management. For instance, multiple pulmonary emboli or underlying infection may be the source of an added workload on the heart and responsible for the continuation of overt congestive heart failure. In addition, problems such as anemia and thyroid dysfunction may compli-

From the Medical Service of the University and Veterans Administration Hospitals, Oklahoma City, Oklahoma.

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Table 1

	Dilution Hyponatremia with Increased Blood Volume	Depleted Hyponatremia with Decreased Blood Volume
Thirst	<b>*Absent to Normal</b>	<b>*Increased</b>
Sweating	<b>Normal</b>	<b>*Decreased</b>
Postural Changes in Blood Pressure Measurements	<b>**Absent</b>	<b>**Significant drop when changed from supine to sitting or standing position</b>
Blood Volume	Increased Blood Volume	Decreased Blood Volume
Radioactive Total Body Sodium	Normal to Increased	Decreased
Central Venous Pressure	<b>**Increased</b>	<b>**Decreased</b>
Urine Sodium Excretion	Normal to Increased	Decreased

cate the picture and it may be necessary to correct these before the actual symptoms of cardiac decompensation can be handled correctly.

In a patient with hyponatremia sometimes it is difficult to determine whether this is due to hemodilution or sodium depletion. Admittedly, most cases of hyponatremia result from hemodilution but as depicted in table 1 it is possible to delineate which clinical state may be the most probable in a particular patient.

A simple bedside check of the patient and of his blood pressure change from the supine position to the erect position often may differentiate between hyponatremia due to hemodilution and hyponatremia due to total body depletion of sodium. These parameters usually adequately reflect the patient's blood volume and therefore his water and sodium balance. In some patients it may be necessary to insert an intravenous catheter through the cephalic or jugular vein and advance it into the superior vena cava or right atrium so that a central venous pressure can be determined and the progress of the treatment carefully monitored.

An often overlooked adjunct to the treatment of patients with intractable congestive heart failure is that of hemo- or peritoneal dialysis. It has been reported and observed by us in several instances that particularly in those patients who have combined cardiovascular and renal disease, the use of peritoneal dialysis has proved a life-saving de-

vice. By using this simple, yet effective means of decreasing the extracellular blood volume, patients have been restored to normal dry weight and their electrolyte imbalance corrected. Oftentimes these patients have probably been protected from the hazards of pharmacological toxicity and their hospital course has been decreased by the use of this simple intervention.

Last, but not least, of the factors that should never be overlooked in the treatment of intractable heart failure is the importance of bed rest. It has become common practice for physicians to urge early ambulation of their patients and to discharge them from the hospital as soon as possible. In most diseases, including most cardiovascular diseases, this has been a welcome and necessary advance. However, it should be remembered that in the patient with cardiac decompensation the necessary point is that the heart be placed at rest. The discrepancy between the activity in the home and hospital is much greater than most of us appreciate. It has been well established that the patient who is maintained at bed rest under medical supervision until he is completely free from edema has fewer hospitalizations during the course of his illness than the patient who is discharged while still in borderline congestive heart failure. Even though patients may feel perfectly well if they are in borderline congestive heart failure, bed rest is of the utmost importance if adequate long-range treatment is to be successful. □

## JOHNSON PRESIDENT — HENDREN PRESIDENT-ELECT



MAXWELL A. JOHNSON, M.D.



SCOTT HENDREN, M.D.

The new President of the Oklahoma State Medical Association is Maxwell A. Johnson, M.D., of Tulsa.

Doctor Johnson succeeded Ennis M. Gullatt, M.D., Ada, at inaugural ceremonies held on May 13th at the President's Inaugural Dinner-Dance in the Mayo Hotel, Tulsa.

The Tulsa urologist was named President-Elect of the association at the 1966 annual meeting of the OSMA House of Delegates. Prior to this recognition, he had been President of the Tulsa County Medical Society and had chaired and served on important committees of the state association.

Doctor Johnson was born in Chicago and received his higher education from the University of Chicago, where he was awarded a Bachelor of Science degree in 1941, and his medical diploma in 1943.

Residency training was obtained at the University of Indiana Medical Center, the University of Chicago Clinics, and LaCrosse Lutheran Hospital. Professional organizations include the American Board of Urology, American Urological Association and the American College of Surgeons.

Named by the 1967 House of Delegates to the office of President-Elect of the Oklahoma State Medical Association was Scott Hendren, M.D., Oklahoma City.

An internist, Doctor Hendren achieved distinction as Chairman of the OSMA Governmental Relations Committee for the past two years. He has also been President of the Oklahoma County Medical Society and of the Oklahoma City Clinical Society.

Born in Memphis, Tennessee, his premedical education was received at Oklahoma City University and the University of Oklahoma. A medical degree was conferred by the University of Oklahoma in 1941.

He interned at Baltimore City Hospital prior to four years' military service in World War II, where he received the Bronze Star.

After a period of general practice, Doctor Hendren received residency training in his speciality at St. Anthony Hospital, Oklahoma City, and at Barnes Hospital, St. Louis.

He is affiliated with many national, state and local specialty societies.

The Hendrens have two sons and are members of the Capitol Hill Christian Church.



## OSMA Has Busy Year With 31st Oklahoma Legislature

At the time this article was written, the First Session of the 31st Oklahoma Legislature was still in session but, for all practical purposes, the OSMA's legislative program had ended.

The OSMA's State Legislative Committee has had a busy and productive year in attempting to represent state physicians with Oklahoma's law-making body. The committee met on eight separate occasions for the purpose of evaluating and acting on proposed legislation, which was of significant concern to the practice of medicine or to its allied affiliates.

During the year, the committee reviewed 77 pieces of legislation. The following description of bills represent only some of the major legislation which required constant attention this year by the OSMA. For a complete report on the overall scope of legislative activities during this past year, see the June issue of the *OSMA JOURNAL*.

### Dispensing Opticians

Much time and work went into the drafting and promoting of House Bill No. 685, the bill supported by the OSMA to register dispensing opticians. The purpose of this legislation was to provide that dispensing opticians must meet minimal standards of training and education in order to be registered under the proposed bill. Regulatory supervision would have rested with the State Board of Medical Examiners.

H.B. 685 was opposed by the Oklahoma Optometric Association. The bill was defeated on the floor of the House by a vote of 38 to 37, when it was turned out of the Jurisprudence Committee in the form of a minority report.

### Chiropractic

There was much activity this session with bills pertaining to chiropractic. On January 18th, Senate Bill No. 116 was introduced and, had it passed, it would have prohibited

chiropractors from advertising their individual services through common news media. This bill had the support of all groups in the healing arts field except the Chiropractic Association. On February 9th, the bill was unanimously passed out of Senate committee on a "Do Pass Motion." On February 14th, as a result of a massive all-out effort on the part of the Oklahoma Press Association opposing the bill, SB 116 was recommended by the Senate to its Business and Industry Committee. The bill will lie in committee through the session but will remain alive through next year's session.

In the House of Representatives, two bills were introduced on March 6th, as initiated by the Chiropractic Association. House Bill No. 851 provides that a chiropractor be placed on the State Board of Health. The other proposal, House Bill 852, would permit chiropractors to actively engage in all public assistance programs dealing with health care.

The OSMA State Legislative Committee opposed both of these proposals as not being in the best interest of good public health. Both bills were locked up in House committee.

### Medical Practice Act

Senate Bill No. 66 was introduced on January 10th by Senator Roy Grantham of Ponca City. This bill amends the medical practice act by providing that a physician will not be prosecuted under the criminal statutes of this state for treating a minor under emergency conditions, even though he may not have obtained consent of the minor's parent or guardian.

This bill was supported by the OSMA and enacted on April 18th.

Senate Bill No. 276, introduced on February 27th by Senator Robert Gee, Miami, and Representative Jerry Sokolosky, Oklahoma City, amends the medical practice act by giving the State Board of Medical

Examiners discretionary authority to issue temporary licenses to residents for the period of resident training. Moreover, this bill further allows the Board to issue a certificate of limited medical practice to certain well known physicians who might be serving a one-year professorship at the OU Medical Center.

The bill had OSMA support and was enacted in mid-April.

### Board of Unexplained Deaths

Senate Bill No. 126 called for an appropriation to the State Medical Examiner's program of \$75,000 for the next year. The OSMA State Legislative Committee was successful in getting this figure amended and increased to \$100,000, since such amount is necessary in order to employ a forensic pathologist and maintain an appropriate county medical examiner system.

The bill went to the Conference Appropriations Committee where it was passed out and in mid-April signed into law at the \$100,000 figure.

### Hospitals

On March 6th, 1967, the OSMA State Legislative Committee, working with the Oklahoma Hospital Association caused to be introduced into the Legislature, Senate Bill No. 346.

Senate Bill No. 346 amends the Public Health Code and provides that the State Board of Health, as the state agency presently authorized to license hospitals in this state, be given further authority to develop rules and regulations controlling the standards and operations of hospital drug rooms.

On March 23rd, an acceptable amendment was adopted and the bill was passed out of the Senate's Health, Welfare and Veterans' Affairs Committee on a "Do Pass Motion." On April 13th, the bill was killed. The same day, it was reconsidered and sent back to the Senate Committee, where it will be revived next January. □



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## THE OKLAHOMA REGIONAL MEDICAL PROGRAM

### The National Program

In 1964 and 1965, federal legislation was drafted to implement the recommendations of a presidential commission. The purpose of the legislation was to intensify the attack on heart disease, cancer, stroke, and related diseases because these diseases now account for a substantial majority of deaths in the United States. As finally drafted, the legislation called for a nationwide system of regional complexes to provide throughout the United States certain kinds of research, educational, and service capabilities available heretofore in only a limited number of medical centers. The objectives of the program, as originally conceived, received general endorsement, but there was considerable disagreement about the mechanisms to be employed in meeting these goals. In response to suggestions from many different elements in the health professions, including the American Medical Association, a series of revisions and amendments were eventually adopted which modified the proposed law substantially. Public Law 89-239 (The Heart Disease, Cancer and Stroke Amendments of 1965) as eventually passed and the regulations later adopted for its implementation provided that the activities to be supported would not interfere with traditional patterns of practice; no new facilities were to be constructed with these funds; the new programs would not finance patient-care (except as incidental to special research projects); and a primary emphasis was to be placed on improving continuing education programs for physicians and other health practitioners. The law provided explicitly that planning of the activities within each region would be developed at a local level.

As stated in the law, its general purposes are:

(a) Through grants, to encourage and assist in the establishment of regional cooperative arrangements among medical schools, research institutions, and hospitals for research and training (including continuing education) and for related demonstrations of patient-care in the fields of heart disease, cancer, stroke, and related diseases.

(b) To afford to the medical profession and the medical institutions of the nation, through such cooperative arrangements, the opportunity of making available to their patients the latest advances in the diagnosis and treatment of these diseases; and

(c) By these means to improve generally the health manpower and facilities available to this nation and to accomplish these ends without interfering with the patterns, or the methods of financing, of patient-care or professional practice, or with the administration of hospitals, and in cooperation with practicing physicians, medical center officials, hospital administrators, and representatives from appropriate health agencies.

Responsibility for the program was assigned to the National Institutes of Health. Proposals for the establishment of a region are not initiated at a federal level. Regional programs are proposed locally where a consensus develops as to the feasibility of and the need for cooperative arrangements. The boundaries of a region are also determined locally by mutual consent after a consideration of what size and configuration would constitute the most efficient and effective regional unit. For example, Oklahoma might have joined with either Kansas or Texas to form a regional unit or it might have proposed to NIH (as it did) that Oklahoma be designated a separate unit. Usually a region contains at least one major medical center

with a research and education capacity of substantial proportions and a surrounding population in close enough proximity to benefit from and to help guide those aspects of the program (such as continuing education activities) which originate in the major academic center or centers. Up to now most of the institutions, groups and communities that have decided to join together in a system or regional collaboration have constituted areas with a population of from one to five million. The size of the geographic areas range from part of a state to two or more states.

Priority for support will be given to regions which are able to develop collaborative arrangements that have greatest potential for improving the effectiveness or efficiency of patient-care or disease prevention at the community level. In each region it is expected that there will be one or more major centers which will furnish resources and manpower in developing program activities at the community level, but support of these centers will be designed primarily to strengthen health care programs in communities outside the centers. For example, manpower from centers in Tulsa or Oklahoma City could assist smaller communities in planning and carrying out local studies of their needs for improving medical services or education.

There is no reason to believe that this will become a "pork barrel" operation. Rather, it seems likely that only well-considered projects will be supported. Neither will funds be adequate to finance projects in every community. Both at the national and regional level the program provides for a competitive review process with priority based on merit as determined by non-governmental reviewing bodies composed of private citizens with special competence in this field. Although these groups will not be infallible, there is reason to believe that the system will have the same success as that achieved previously by the "non-political" and highly critical review system which has worked so effectively in other NIH programs.



Grants for planning have now been made to more than twenty regions. It is expected that from one to three years after the local planning has started, operational projects will be conceived and approved at a regional level. Thus far, only four operational grants (as opposed to planning grants) have been made by NIH. These were awarded in 1967 to regions which have received planning grants in early 1966.

### The Oklahoma Program

The proposal to designate Oklahoma as a region did not originate with the federal government. It was determined locally that for several reasons (including its geography, population, patterns of patient referral, and its social, economic and educational organization) Oklahoma would constitute a logical regional unit. It was, therefore, proposed by Governor Henry Bellmon in 1966 that Oklahoma be designated by NIH as a region and that the University of Oklahoma Medical Center be the planning agency for the development of a regional program. A proposal for a planning grant was then made to NIH. This was favorably acted upon by NIH, and in September, 1966, funds were authorized for planning activities. This statewide undertaking is called the Oklahoma Regional Medical Program.

As stated in the planning grant application, the broad goals of the Oklahoma Regional Medical Program include:

- 1) The life-long continuing education of physicians within the State of Oklahoma with emphasis on cancer, heart disease, stroke, and related disease.

- 2) The support, promotion, and attainment of standards of excellence in the practice of community medicine.

- 3) The utilization of all the resources at its command in collaboration with the physicians of the state, community hospitals, state, and voluntary health agencies to provide the intellectual environment for the attainment of the above objectives.

In 1966 Governor Bellmon appoint-

ed a Regional Advisory Council. This group included representatives of the Oklahoma State Medical Association, the Oklahoma Hospital Association, the Oklahoma Heart Association, the Oklahoma Cancer Society, the Oklahoma Health Sciences Foundation, the Oklahoma State Nurses Association, the State Department of Health, officials of other major educational institutions, health-related foundations and professional societies, and some leading private citizens representing the public-at-large. Twelve physicians were appointed to the Council, of whom nine were in private practice. The Council members appointed initially were from Ponca City, Lawton, Lindsay, Norman, Ardmore, Enid, Chandler, Stillwater, McAlester, Tulsa, and Oklahoma City.

Doctor James L. Dennis, Director of the Medical Center, was appointed by Governor Bellmon as Chairman of the Advisory Council. It was recognized that the large Council, designed to assure substantial breadth of geographic, social and institutional representation, could not

be expected to give day-to-day guidance to the details of the program, but rather would concern itself with broad matters of policy and the review of proposed programs and activities when specific proposals have been developed. The role of the University of Oklahoma Medical Center is to furnish leadership, resources and manpower in furthering the goals of ORMP. But the ORMP is not a Medical Center project with incidental statewide objectives. Rather, it is a program of the citizens of Oklahoma. When potential operational projects are developed they will be evaluated and assigned priority by the Advisory Council of ORMP. The membership of the Council will be rotated systematically. In making new appointments consideration will be given to maintaining the same breadth of geographic and organizational representation and the same high degree of competence.

Doctor Dennis has appointed a smaller committee to provide continuing guidance in planning and to assist him in recruiting the permanent staff. This committee is chaired by Ben Heller, M.D., Professor and Chairman, Department of Laboratory Medicine, University of Oklahoma Medical Center. Since the success of the program will depend heavily on the quality of the staff who must give it leadership, the recruitment process could not proceed with haste. High standards have been set in selecting candidates for these important posts and recruiting has occurred at a deliberate pace. For this reason the planning activities are still in a preliminary phase. In March, 1967, Doctor Kelly M. West, Professor and Chairman, Department of Continuing Education, was asked by Doctor Dennis to direct the Program on a temporary basis pending the appointment of a permanent Director. Meanwhile, a special search committee is in the process of reviewing candidates for the directorship. In March an appointment to the ORMP staff was accepted by Col. Neal H. Hardin who is now Deputy Commandant of the Air Force Extension

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## Planning Activities

Course Institute. Mr. Hardin, who holds a Masters Degree in educational psychology, has been a leader in the development of a unique computer-based mass education program that provides education on a continuing basis for more than 400,000 Air Force personnel in more than 200 subjects, some of which are health-related. He will join the staff of the Oklahoma Regional Program in June with a responsibility for the development of continuing education programs for the health-related professions allied to medicine such as medical technology, physical therapy, X-ray technology, etc. Since for every physician there are now about ten other members of the health team, the continuing education of these workers in health professions allied to medicine will be an important part of the Regional Medical Program.

In April, 1967, Mrs. Erwina Cornelison was appointed Executive-Secretary for the program.

Oklahoma has had a "regional medical program" for many years. The NIH program will provide a very useful instrument for furthering activities and goals which have existed heretofore. For example, the Oklahoma State Medical Association and the School of Medicine have collaborated for several years in sponsoring a series of regional post-graduate courses (nine in 1966) held in all parts of the state. The School had also joined with OSMA in sponsoring a weekly television series designed to help physicians continue their education. The activities of the Oklahoma Health Sciences Foundation are a regional effort to meet the state-wide need for medical manpower. "Project Responsibility" is an attempt to find ways of meeting the needs of the rural areas of this region for better medical services. The Health Intelligence Facility of the Medical Center is a program to analyze systematically the health needs of the region including a special emphasis on the manpower requirements of all parts of the state.

As indicated above, planning activities of regional scope have been pursued intensively for several years but most of these have not been sponsored by the more recently constituted NIH Regional Medical Program. Planning relating directly to the Oklahoma Regional Medical Program (for cancer, heart disease, stroke and related diseases) is still in a preliminary phase because it has been necessary to choose with care the permanent staff members who will give leadership to the program. It has, however, been possible to undertake some preliminary planning activities.

It was recognized that the continuing education of health professionals and the quality of service they provide will depend to a considerable extent on the quantity, quality and accessibility of the information they receive. Therefore, one of the initial objectives of the Program has been an examination of the library and other information resources and services in the state which will be needed if we are to improve the care and prevention of the major diseases. Mr. Leonard Eddy, Librarian, University of Oklahoma Medical Center, has now completed a study of available medical library resources and manpower in the state. A report was prepared and presented for discussion at an ORMP-sponsored conference on March 31st. This one-day meeting brought together 110 conferees to discuss ways and means for improving health-related information services in Oklahoma. The invited conferees were carefully selected to represent all the elements of the region which will be in a position to further the development of information services in Oklahoma. The conferring group included representatives of the Oklahoma Hospital Association, the Oklahoma Heart Association, the Oklahoma State Medical Association, the National Library of Medicine, the professional schools, 40 librarians representing hospitals, colleges, and community libraries, and practitioners from several of the health professions such as physicians, nurses, hospital administrators, pharmacists,

etc. Potentialities for improving information services through intra-regional collaboration were discussed and these discussions will serve as the basis for development of specific planning. The conferees received a written report on both the national and state Regional Medical Programs. The long-range plans of the new Medical Center library were discussed, particularly as they relate to its potential role in serving objectives of regional scope.

A member of the Dean's advisory committee on ORMP was appointed in 1966 to the subcommittee on library planning of the long-range planning committee of the Medical Center. The long-range library program that has been developed provides that the new library, in addition to serving the professional schools, will act as the nucleus of a state-wide information system. In formulating the construction plans for the new library, the needs and the objectives of the Regional Medical Program were taken into account during each step of the process. These plans are now well-advanced and this project, when completed will be an extremely useful instrument in furthering the objectives of ORMP. For example, the library at the center would have space, resources and manpower to provide many regional services not now available such as expanded programs for training medical librarians, helping hospitals to improve their information services, providing information more rapidly to practitioners and their libraries, etc.

A series of preliminary formal and informal meetings have been held with many individuals and organizations to inform them about ORMP and to obtain their advice about the development of the program. These consultations have included three County Medical Societies, the Professional Education Committee of the Oklahoma State Heart Association, the Oklahoma Medical Research Foundation, the proposed information program which would link the VA Hospitals in Oklahoma City and Muskogee in a program of continuing education, the Center for Continuing Education of the University of Okla-

homa (Norman), the statewide planning program in vocational rehabilitation, and the Oklahoma State Health Department (particularly in regard to their proposed Comprehensive Planning Program). A general plan has been developed for achieving close collaboration between ORMP and the Comprehensive Planning Program. Intensive liaison was pursued with the Oklahoma State Medical Association. The ORMP was discussed at length with the OSMA Council on Professional Education and with the OSMA Medical Liaison Committee. A member of the ORMP advisory committee is Chairman of the OSMA Council on Professional Education. The President-Elect of OSMA, Doctor Maxwell Johnson, has participated actively in the planning process. He attended the national meeting on ORMP in January with members of the Dean's Advisory Committee. The President, Doctor Ennis Gullatt, has appointed a new OSMA committee specifically charged with the responsibility for liaison with ORMP. The Chairman will be Doctor Marvin K. Margo, President of the Oklahoma County Medical Society.

Plans have been developed by the Oklahoma Regional Program for joint action with the Health Intelligence Facility in carrying out studies of local needs in selected communities and their surrounding areas. These feasibility studies would determine in a systematic manner what kind of activities would be most likely to help victims or potential victims of the major diseases; they would also determine which communities and institutions were most receptive to participation in the program. Finally, the feasibility studies could assign priorities of need, and identify existing resources that might be brought to bear on these needs. In order to design methods for conducting such evaluations, some preliminary feasibility studies were performed in three Tulsa hospitals. These studies laid the foundation for broader appraisals of the resources, facilities, manpower, and needs in the Tulsa area. In general, it is proposed that

local studies will be carried out in collaboration with the local medical profession. No projects will be undertaken without the prior approval of the local county medical society.

In May the Oklahoma Regional Medical Program plans meetings with several other county medical societies in which area feasibility studies will be considered. Planning studies in some localities will be quite broad in scope, but in other communities it may be appropriate to limit the study to an evaluation of the feasibility of a single project such as developing a stroke rehabilitation unit to be shared by several towns, institutions or counties.

In March, 1967, Doctor John Kalbfleisch, who is Assistant Professor of Medicine and an American Heart Association Teaching Scholar, accepted the responsibility for a ORMP-sponsored feasibility study of the diagnostic facilities for heart disease in the Oklahoma City area. The first phase of this study has been an examination of the feasibility and potentiality of area-wide collaboration in creating, operating, and sharing certain kinds of facilities and services used in the diagnosis of heart disease.

In April, 1967, Doctor Ben Heller accepted the responsibility of directing a systematic study of resources, facilities and manpower of the University of Oklahoma Medical Center to identify those capabilities that might further the objectives of ORMP and to determine requirements for additional resources which would serve ORMP. This study will be completed during the first year of the planning program (by September, 1967).

Doctor Ennis Gullatt, President of the Oklahoma State Medical Association, consulted ORMP in preparing an explanation of the Regional Medical Program for his "President's Page" of the OSMA Journal. This article which appeared in the April issue emphasized that the law originally proposed was substantially modified after consultations with the medical profession, including AMA, and that the general goals of the program

are shared by the Oklahoma State Medical Association.

To provide office space for the ORMP staff, a house has been rented adjacent to the Medical Center Complex at 619 N.E. 15th Street. The space has been furnished and was occupied in April. The planning staff will include five professionals of whom three or four will be physicians.

Planning will take place over a three-year period, but it may be possible to develop some operational projects prior to the completion of the three-year planning period, perhaps as early as 1967. There will be considerable acceleration of the planning process as the full-time staff members are appointed. It is apparent that this planning will not bear fruit immediately, but the prospects seem bright for very substantial long-term accomplishments. □

## House Staff Physicians Plan Annual Meeting

The Oklahoma Association of House Staff Physicians will hold their Thirteenth Annual Meeting at the University of Oklahoma Medical Center, May 19th, 1967. The day-long scientific session will feature 21 speakers including two out-of-state guests—Robert M. Zollinger, M.D., Ohio State University College of Medicine, Columbus, and Jay P. Sanford, M.D., University of Texas, Southwestern Medical School, Dallas.

Incentive awards will be presented for the best papers in the following categories: Radiology—\$100.00 from the Oklahoma State Radiologic Association; Internal Medicine—\$100.00 from the Oklahoma City Internists Association; Surgery—\$100.00 and \$200.00 from the Oklahoma Chapter, American College of Surgeons and the Oklahoma City Surgical Society; and Pediatrics—\$100.00 from the Central Oklahoma Pediatric Society.

All residents and interns are invited. There is no registration fee. Following the day's program, a dinner-dance will be held in the Venetian Room of the Skirvin Hotel. □





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## Plans For AMA General Session Outlined

Patient care, from the standpoint of standard methods as well as research, will be one of four topics presented in general scientific sessions at this year's Annual Convention of the American Medical Association.

The convention is to be held in Atlantic City June 18th-22nd; the scientific program will be at Convention Hall, and nearby hotels, and the House of Delegates will meet at the Chalfonte-Haddon Hall Hotel.

The general scientific meetings are open to all physicians attending the annual convention.

Other general scientific meetings on this year's annual convention program will be on the subjects of: backache, healing and sex.

In addition to the general sessions, each of the 22 scientific sections will present scientific programs. Many of the section programs will, as in past years, be joint meetings of two or more sections and, in some instances, a specialty society.

Specialty societies joining AMA sections will include:

—The American College of Chest Physicians, which will join the Section on Diseases of the Chest for a program.

—The American College of Cardiology, which will join the Section on Internal Medicine in a session.

—The Society for Investigative Dermatology, Inc., which will hold its meetings in conjunction with the Section on Dermatology. □

## Family Medicine Program Receives Grant

Two grants totaling \$36,600 have been awarded in support of the new Family Medicine program at the University of Oklahoma Medical Center, it was announced recently.

The program has received \$11,600 from the Family Health Foundation of America, an arm of the American Academy of General Practice, Doctor Roger I. Lienke, chairman of the Family Medicine division, said.



## Putnam City Teacher Receives OSMA Award

Mrs. Alva Card, Putnam City High School English teacher of the first-place winner of the 1967 "Ability Counts" Contest, is shown receiving a \$250 check for an expense-paid trip to Washington, D.C., from Ennis M. Gullatt, M.D., President of the Oklahoma State Medical Association. Presentation was made in the Conference Room of the State Capitol, March 29th, 1967.

He also was notified that the National Fund for Medical Education allocated a \$25,000 grant, to be paid in July. This award was sponsored by Chas. Pfizer & Company, pharmaceutical company, which asked that its contribution to the National Fund be earmarked for the Family Medicine program.

The Family Medicine Division will prepare graduate physicians for general or family practice and will have a role in the training of medical and paramedical students. The first physicians in the residency program will begin training in July.

Training center is the University Family Medicine Clinic, now housed in a former residence near the Medical Center. Construction of a clinic building will begin this summer.

Doctor John G. Walsh, Sacramento, California, president, said, the Family Health Foundation "looks with favor on the entire project."

"We are delighted that the foundation can have a part in this most important program that we feel will make a real contribution to our goal to provide comprehensive continu-

ing medical care for the American family," he stated. □

## European Tour Set For State Doctors

The Oklahoma State Medical Association will sponsor a European Tour during the Summer of 1968.

Departing from Oklahoma City and Tulsa on July 17th, the group will be afforded the option of a basic 16-day tour or may individually elect to take a seven-day extension.

The basic tour program includes stops in London, Paris, Zurich, Lucerne and Rome, while the seven-day extension includes visits to Florence, Venice and Berlin.

Tour features include overseas flight arrangements by Pan American Airways, first-class or deluxe hotels, breakfasts and dinners each day, air and first-class rail transportation within Europe, and conducted sightseeing tours on air-conditioned coaches.

The 16-day package is \$799.95 from Oklahoma City and \$791.45 from Tulsa. Prices for the 23-day plan are \$948.45 and \$940.45. □

## Plans Made To Honor Stewart Wolf

To celebrate Stewart G. Wolf's Fifteenth Anniversary as Head of the Department of Medicine at the University of Oklahoma Medical Center, a special one-day scientific program has been planned in his honor for May 20th, 1967, in the auditorium of the medical school. Sponsoring the meeting will be the Department of Medicine, the Office of Postgraduate Education and the Association of the University of Oklahoma Medical Faculty.

James D. Hardy, M.D., Professor of Physiology and Director of The John Pierce Laboratory of Hygiene, Yale University Medical School, will present the Stewart Wolf Lecture—"Peregrinations on Pain" at 4:00 p.m.

Nineteen other physicians, all of whom served a residency under the guidance of Doctor Wolf, will participate in the scientific session. They are: Paul C. Houk, M.D., W. Julien Bahr, M.D., James F. Hammarsten, M.D., Jack D. Welch, M.D., G. Victor Rohrer, M.D., John P. Naughton, M.D., Mervin L. Clark, M.D., L. Clarke Stout, M.D., James P. Rhoads, M.D., Charles W. Robinson, Jr., M.D., William O. Smith, M.D., H. Earl Ginn, M.D.,

Walter H. Whitcomb, M.D., William F. Denny, M.D., Sylvia Bottomley, M.D., Johan Wulff, M.D., L. O. Laughlin, M.D., Thomas Lynn, M.D., Harold G. Muchmore, M.D., Everett R. Rhoades, M.D., James M. Colville, M.D., John Kalbfleisch, M.D., Richard Bottomley, M.D., Gunnar Sevelius, M.D., E. N. Brandt, M.D., W. W. Rucks, Jr., M.D., and William L. Hughes, M.D.

Diversified scientific subjects will be covered during the program. There will be no registration fee and all physicians are urged to attend. □

## Doctor Lachman Made Regents Professor



ERNEST LACHMAN, M.D.

The University of Oklahoma Board of Regents announced March 17th the select title of Regents professor will be conferred upon Ernest Lachman, M.D., 66, professor and chairman of the Department of Anatomy at the School of Medicine.

Doctor Lachman will retire from the chairmanship of the department June 30th. His appointment as Regents professor of anatomy and radiology will become effective July 1st.

The Regents professorship is bestowed in recognition of outstanding service to the university, and one of its purposes is to reward ability as an administrator.

Doctor Lachman is the eighth Regents professor named since the position was created in 1946 and the second selected at the medical school. Mark R. Everett, Ph.D., D. Sc., dean emeritus of the school, is a Regents professor of medical sciences.

Doctor Lachman joined the OU faculty in 1934 and has served as anatomy chairman since 1945. He also is a professor of radiology.

"His students and his former students hold him in the greatest affection, and his colleagues equally love and respect him," George L. Cross, Ph.D., OU president, told the re-

gents. "His leadership has brought to our Department of Anatomy the respect of the world of medical education. His scholarship has been published widely and has brought him international repute."

Born in Glogau, Germany, Lachman received the M.D. degree at the University of Breslau (then Germany, now Poland) in 1925. He later studied radiology and anatomy at Charite University Hospital in Berlin, the Radiumhemmet in Stockholm, the Royal College of Physicians and Surgeons in Edinburgh and Memorial Cancer Hospital in New York.

He is known for his research on the x-ray anatomy of the skeleton and viscera, the life history of cranial sutures, x-ray biology and genetics, the pathways of the spread of tumors and new methods of teaching—his primary interest.

Doctor Lachman's office is the first stop for most physicians returning to visit their alma mater. One of his former students is the present dean and director, James L. Dennis, M.D., who joined Cross in recommending the Regents professor title.

His many contributions to the scientific literature include serving as section editor of Morris' "Human Anatomy" and co-editor of Biological Abstracts.

He is a member of Sigma Xi, honor fraternity for scientists, and an honorary member of the OU chapter of Alpha Omega Alpha, medical honor society. His memberships in other professional societies include the American College of Radiology, the Oklahoma State Medical Association, American Association of Anatomists, American Association of Physical Anthropologists and the Society of Experimental Biology and Medicine.

Doctor Lachman has served on many administrative committees at the medical school and has been a part of its development from a "school" into a many-faceted medical center. He is a member of the Master Planning Committee for further expansion of the present medical complex into the Oklahoma Health Center. □



## DEATHS

ELIAS L. MARGO, M.D.  
1897-1967

Elias L. Margo, M.D., Oklahoma City orthopedic surgeon and co-founder of the McBride Clinic, died in an accident near Warner, Oklahoma, March 18th, 1967. He was the father of Marvin K. Margo, M.D., Oklahoma City orthopedist.

Born in Rio Grande City, Texas, Doctor Margo graduated from the University of Texas Medical Branch in 1919. He established his practice in Oklahoma City following his internship.

Doctor Margo was one of the founders of the American Congress on Physical Therapy, a Diplomat of the American Board of Orthopedic Surgeons, a Fellow of the International College of Surgeons, a member of the American Academy of Ortho-

pedic Surgeons and the Mid-Central States Orthopedic Society.

DAVID D. PAULUS, M.D.  
1888-1967

David D. Paulus, M.D., Oklahoma City physician, died April 5th, 1967.

A native of Random Lake, Wisconsin, Doctor Paulus graduated from Northwestern University Medical School in 1914. In 1916, he came to Oklahoma City where he organized the Oklahoma City Clinic. He had been on the teaching staff at the University of Oklahoma Medical Center, where he was Associate Professor Emeritus of Medicine.

In 1958, Doctor Paulus received a Life Membership from the Oklahoma State Medical Association in recognition of over a half-century of medical practice. He was a member of the American College of Physicians. □

## BOOK REVIEWS

**CONFLICT IN SOCIETY.** A CIBA Foundation Volume. Anthony DeRuck and Julie Knight, eds. First edition. Cloth, 451 pages. Boston, Little, Brown and Company, 1966. \$13.00.

The symposium that led to this publication is one of several the Ciba Foundation has sponsored on non-medical topics of great general concern. The intention of this symposium was, in the words of editor DeRuck,

"To discuss conflict between social groups at a hierarchy of levels, ranging from situations involving small groups of people face to face, and proceeding through confrontations of large and relatively impersonal institutions such as occur, for example, in industrial disputes between management and trades unions, right up to international conflict and nations at war."

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To explore such a vast and ill-defined subject as conflict an assortment of leading figures from fields of sociology, anthropology, social psychology, psychiatry, ethnology, systems analysis, political science, history, and international law were invited to present papers and participate in discussions with the hope of finding homologies of structure and function between the levels of conflict.

The symposium assumes that conflict in its multiple expressions is inherent to human social processes especially those involving change, an assumption that would have been disputed by competent scholars as late as the 1950's. The preceding era held conflict to be abnormal and pathological, a state that would cease to exist when the vagaries of human existence had been alleviated. One of the contributors, Van Doorn, tells us that the issue is not yet entirely dead, for many sociologists.

"Exclude conflict as far as possible, referring to it, when at all, as a dysfunction, a disruptive force or even a disease. By and large the intellectual climate of modern sociology may be characterized as being unfriendly to say the least, towards the study of social conflict . . . Far from being regarded as a type of deviant behavior, tensions and contradictions should be adapted as a basis on which to build sociological theory."

The acceptance of conflict as one of many social processes now allows us to study it more or less objectively with a view to understanding and perhaps eventually controlling its more destructive features.

The symposium papers are arranged on a continuum from small to large situations of conflict. The continuum starts with a superb paper by S. L. Washburn, a leading expert in primate behavior and early man. By exploring the qualities of primate behavior and the extrapolated evolutionary pressures on the human personality configuration,

Washburn arrives at a series of generalizations.

"Just as it is easy for man to learn speech or tool-use because the basis for these abilities has been built into the brain by selection and evolution, so it is easy for man to learn to be aggressive and to glory in conflict. This does not mean that this kind of behavior in man is inevitable, but it does mean that aggression will appear whenever it is rewarded, even if only minimally. It does mean that young males will feel joy in conflict whenever the social system provides opportunity for an approval of conflict."

Proceeding from the basis of Washburn's paper the symposium explores the aspects of conflict in the single person, the small social group, larger formal social organizations, and in the context of international conflicts.

The symposium avoids one of the common weaknesses of published collections of papers by providing chapters devoted to discussions by the contributors instead of leaving the task of integration to the lay reader. The authors also make frequent references to other papers in the volume. While the quality of comments in the discussions varies widely and often sheds but dim light on the supposed homologies between the levels of conflict, the reader at least has a chance to see how the experts would relate the papers to each other.

The quality of the papers is generally high; the homes of the authors are scattered from eastern Europe to the United States; and the selection of subject matter is varied and non-repetitive. All of this results in a book that affords a broad view of the conflict process and, while there are no pat answers to the problem, there is enough consensus to give the reader a thorough understanding of the problem. Perhaps the only criticism this reviewer has to offer is that he would prefer to see the emphasis of the symposium reversed by presenting more papers on the lower and less nebulous levels of conflict than on the

larger situations.—*David Barry, Department of Anthropology, University of Minnesota, Minneapolis, Minnesota*

**OUR HOSPITAL CRISIS.** By Edwin P. Hoyt. New York: Holt, Rinehart and Winston, 1966. 241 pp. \$5.95.

This discourse on the problems that beset the modern hospital flies under a false title. Crisis is a word with which the public has become all too familiar in terms of health care. Mr. Hoyt's book waves no red flags; it is a simple but effective explanation of some of the complicated problems facing hospitals today.

Edwin P. Hoyt is a recognized author whose subject matter in the past has been outstanding Americans. He was encouraged to enter the medical field by the publishers of Holt, Rinehart and Winston. The basis of his work is questionnaires which went out to over 300 hospital administrators and interviews with people from the health field. His statements are forthright. The analyses which he makes are bordering on the elementary, but the presentation does tell the story of the hospital.

Hospitals are in their present predicament for several reasons, Mr. Hoyt reports. In spite of the vast sums of Hill-Burton funds expended in the last 20 years, many of the larger municipal hospitals are seriously in need of modernization. The number of employees required to care for patients is higher than it was in 1950, and the need is growing. With the increasing demand for better salaries, this can do nothing but skyrocket the cost of hospitalization.

There is confusion about who pays for hospital services received. The welfare patient has been cared for at less than the cost of hospitalization. The private patient has had to absorb this cost, as well as the expense of educational programs. Medicare, according to Hoyt, may have established the principles which eventually will answer some of these problems, through its reimbursement cost formula that provides for every patient to pay his own way.

Meanwhile, there is nothing left for many of the famous hospitals of this country to do but live off their endowments.

The future of hospitals, Hoyt suggests, is looking brighter. Frank Lloyd Wright's vision of the low, rambling, homelike structure has actually come to pass with some new hospitals. The computer and its system of total information offers improved services and greater efficiency.

The hospitals of the future will provide all private rooms, Hoyt predicts. They will be staffed and equipped to offer an intensive therapy to all patients. More doctors and nurses will be available; however, patients will see less of them. Care will be less personal, and when the acute phase of the illness is over the patient will be sent to a unit "that specializes in care."

These are not new concepts; in fact, some of the changes have been programmed into hospitals that are being built. Hoyt has done a good job, however, of putting together information for the individual outside the medical field who asks: "What's happening to our hospitals?"—Robert C. Terrill

**CIBA FOUNDATION SYMPOSIUM: COMPLEMENT.** By G. E. W. Wolstenholme, O.B.E., F.R.C.P., F.I. Biol. and Julie Knight, B.A. First edition, cloth, 388 pp., 50 illustrations. Boston, Massachusetts, Little, Brown and Company, 1965. \$12.50.

This volume represents the edited proceedings of an international symposium on complement held in London in May, 1964. The symposium was under the chairmanship of Doctor J. H. Humphrey of the National Institute for Medical Research, Mill Hill, England, and included some 25 well known investigators from the United States, England, Canada, Australia, Germany, Holland, and Switzerland. The papers range from six to 31 pages in length with the majority being about 15 pages. Virtually every aspect of the biology of complement is discussed including the identity of complement from

different species, working definitions of complement, the mechanisms of hemolysis, sites of synthesis of the various components, immune bactericidal and bacteriolytic reactions, and the role of complement in a variety of disease processes including delayed hypersensitivity and deficiency states. Each contribution contains a selected bibliography of recent papers. However, the distinctive feature of these symposia is the edited discussions which follow each paper and sometimes equal the paper in length. There are also group discussions on the complexities of nomenclature which are especially valuable since a number of contributors used different terms for what may be the same components of complement.

This book will not interest the average physician. However, for the investigator or physician interested in immunologic processes, it is highly recommended as a good summary of the developments in this rapidly expanding field.—Harris D. Riley, Jr., M.D.

**EGG IMPLANTATION.** Ciba Foundation Study Group No. 23. Edited by G. E. W. Wolstenholme and M. O'Conner. Paper, 112 pp., with 25 illustrations. Boston: Little, Brown and Company, 1966. \$3.50.

This small book provides many interesting theoretical considerations concerning early mammalian development and may prove stimulating for the specialist and research-inclined student.

The five papers included in this study present and discuss the numerous factors involved in implantation process of rats, rabbits, guinea pigs, and wild badgers. One of the most impressive aspects of the work presented is the astonishing number of research tools now being applied to this most basic developmental problem. Despite the number of new facts presented in this study, no basic unifying concepts or conclusions are presented, and it is obvious that very much remains to attract the serious investigator.

The informal discussion sessions following each original paper are

probably the most valuable and rewarding sections for the non-specialist.—Robert E. Coalson, Ph.D.

**THE BIOLOGY OF TISSUE TRANSPLANTATION.** By P. S. Russell, M.D. and A. P. Monaco, M.D. First edition, cloth, 207 pp., 17 illustrations. Boston, Massachusetts, Little, Brown and Company, 1965. \$6.75.

This book which numbers 207 pages assembles in one place the information which first appeared in the "Medical Progress Series" of the *New England Journal of Medicine*, beginning September, 1964. It is divided into six chapters which cover the nature of the immune response, alterations in recipient activity, transplantation antigens, experimental and clinical organ transplantation and a final chapter on prospects for the future. Particular stress is laid on immunologic problems. Important findings such as immunologic tolerance, enhancement and the immunologic role of the thymus are discussed in detail and illustrated with diagrams. It includes 600 references.

Although this is an excellent summary and compilation of studies, the original series from which it was derived will have been studied in depth by workers particularly interested in this field. Although a certain amount of additional information has been incorporated in the monograph, some readers will question the duplication of the printing now in book form.—Harris D. Riley, Jr., M.D.

**PATHOLOGY**, Vol. one and Vol. two, edited by W. A. D. Anderson, M.A., M.D., F.A.C.P., F.C.A.P. Fifth edition, cloth, two volumes, 1439 pp., 1260 illustrations and 7 color plates. St. Louis, Missouri, The C. V. Mosby Company, 1966. \$21.00.

This book represents one of the standard American texts in pathology. The present edition, the fifth since 1948, is divided into two volumes but maintains the same basic format. It is considerably updated, but the number of pages is only slightly increased while the number of illustrations is actually reduced so that the two volumes together



have essentially the same thickness as the single volume of the fourth edition. The number of contributors has been increased from 35 to 39.

No purpose is served by discussing in detail the individual features of a book so widely known and accepted as this one. Anderson states in the preface that his fundamental objective is to provide "a comprehensive, thorough and balanced coverage of the subject of pathology." He maintains this can be accomplished best "by the collaborative efforts of a group of people, each individual representing that area or aspect of pathology that he knows best." He further states that the book attempts to meet the needs of the undergraduate medical student and also to serve as a reference tool for more advanced students or for pathologists and other practicing physicians. While this objective is admirable, one can only wonder, in view of the striking advances in medical sciences and the changing emphasis on pa-

thology for the medical student from knowledge of specific disease entities to more general concepts, whether the one text can serve these two distinct audiences simultaneously.—*Harris D. Riley, Jr., M.D.*

#### OBSTETRICS AND GYNECOLOGY.

By J. Robert Willson, M.D., Professor of Obstetrics and Gynecology, The University of Michigan Medical Center, Ann Arbor, Michigan; Clayton T. Beecham, M.D., Director of Gynecology and Obstetrics, The Geisenger Medical Center, Danville, Pennsylvania and Elsie Reid Carrington, M.D., Research Professor of Obstetrics and Gynecology, Woman's Medical College of Pennsylvania, Philadelphia, Pennsylvania. Third edition, cloth, 776 pp. with 346 illustrations. Saint Louis: The C. V. Mosby Company, 1966. \$15.00.

This is a textbook that was specifically designed for the medical student. Its original format has been revised to make it an interesting and informative source of information,

not only for the student, but also for the general practitioner, internist, surgeon or any other physician involved in the treatment of women and their diseases.

The material covered in this book is done in a very broad fashion. The bibliography at the end of each chapter is quite complete. Its presence and quality is obviously intended for the person interested in pursuing a given subject in depth.

Most obstetrical and gynecological technical procedures are not discussed in detail. Indications for the procedures are well covered, even to the extent of advocating the points at which appropriate consultation should be obtained.

The physician limiting his practice to obstetrics and gynecology will find this book lacking in specifics and technical detail. Physicians involved more casually in the treatment of women's diseases will find this book to be an excellent source of information.—*Robert N. Smith, M.D.* □

## Miscellaneous Advertisements

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McNeill, A. J.: Clin. Med. 8:518 (Mar.) 1961.

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Arnold, E. T., Jr.: Geriatrics 12:612 (Oct.) 1957.

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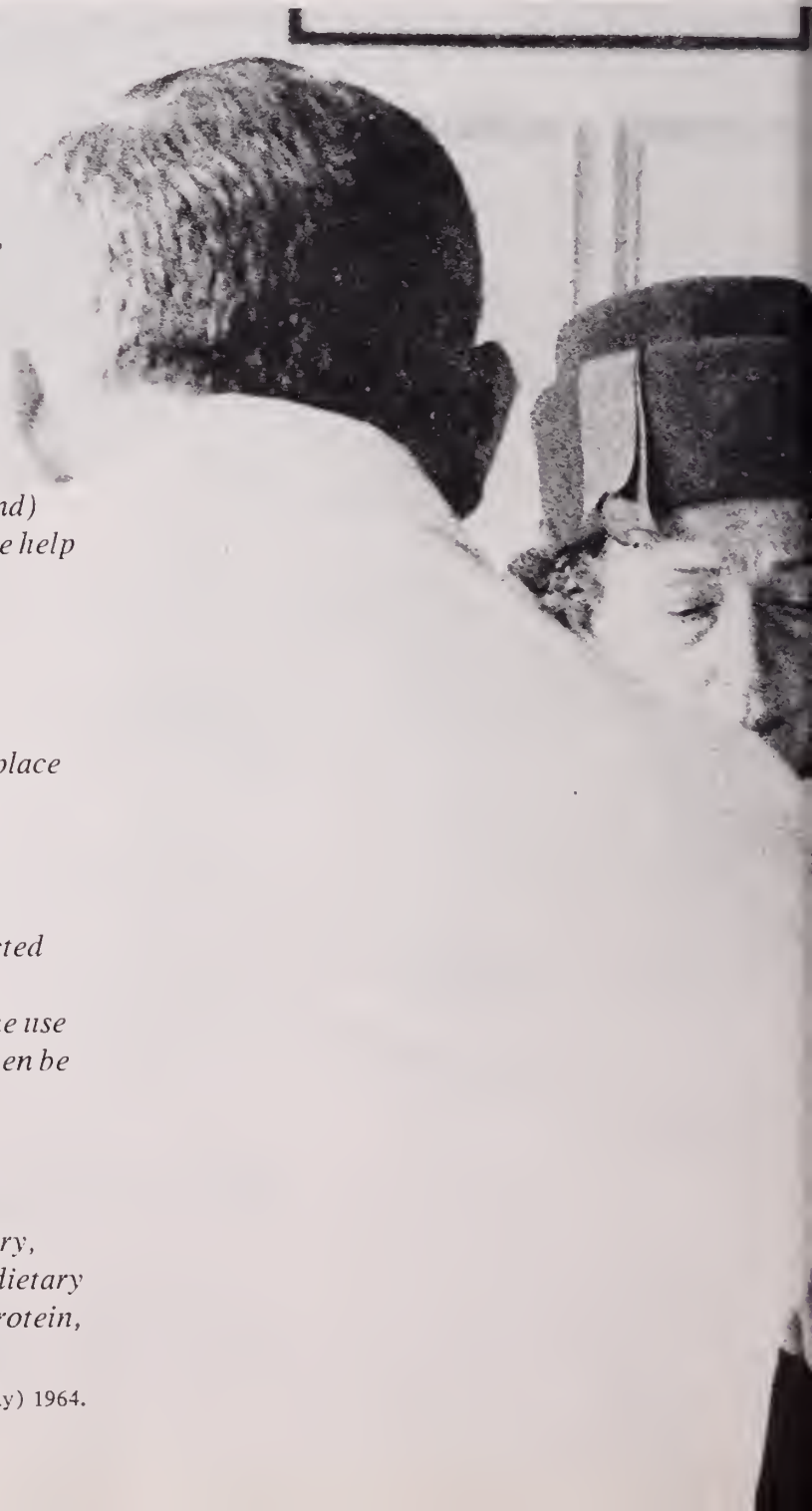
Morgan, A. F.: Gerontologist 2:77 (June) 1962.

*"In diets which for any reason are restricted in calories, enough of these substances (B vitamins) may not be supplied... The use of B and C vitamin supplements may then be justified and indeed may be necessary."*

Morgan, A. F.: Gerontologist 2:77 (June) 1962.

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Riccitelli, M. L.: J. Am. Geriatrics Soc. 12:489 (May) 1964.



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Riboflavin .....	5.0 mg.
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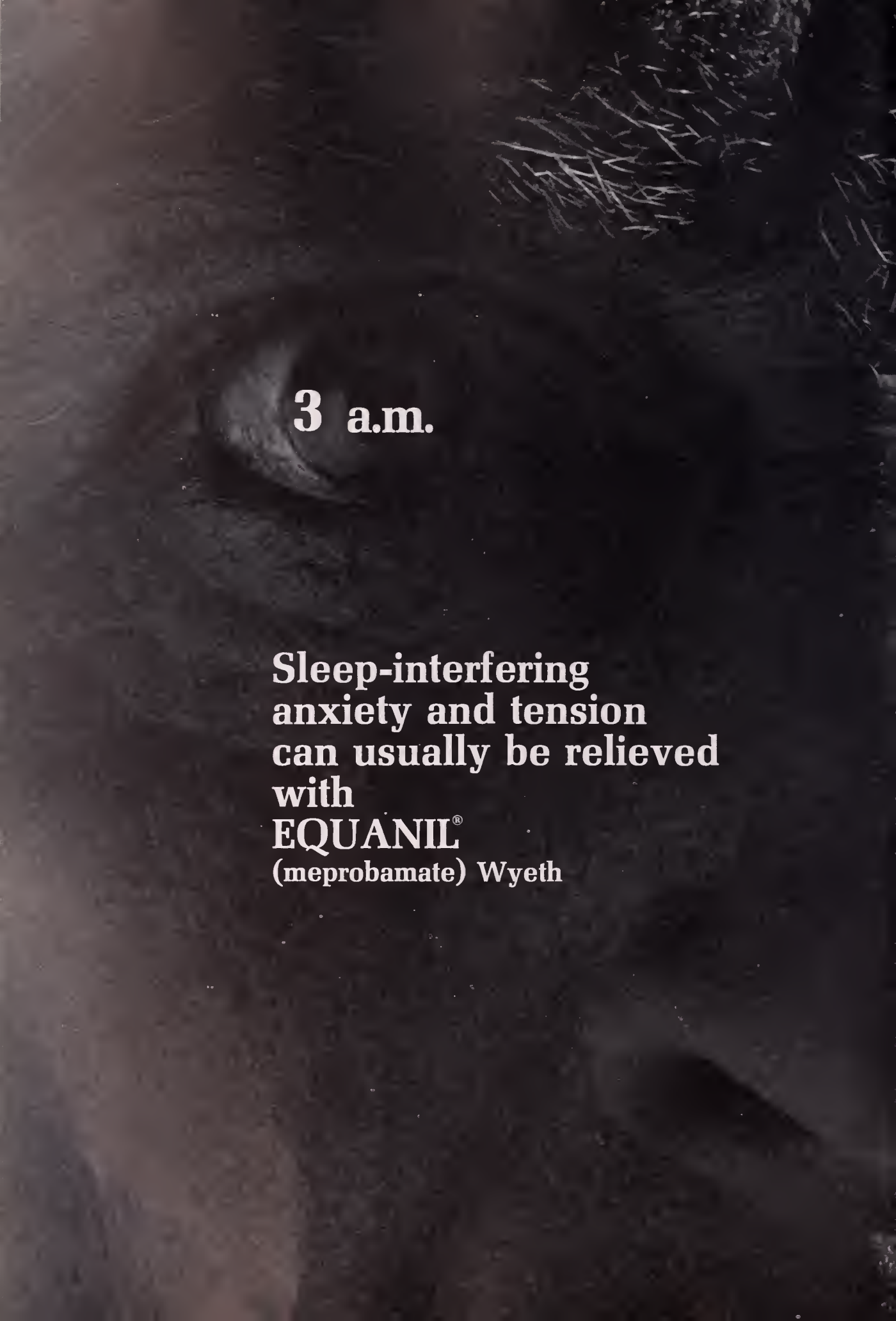


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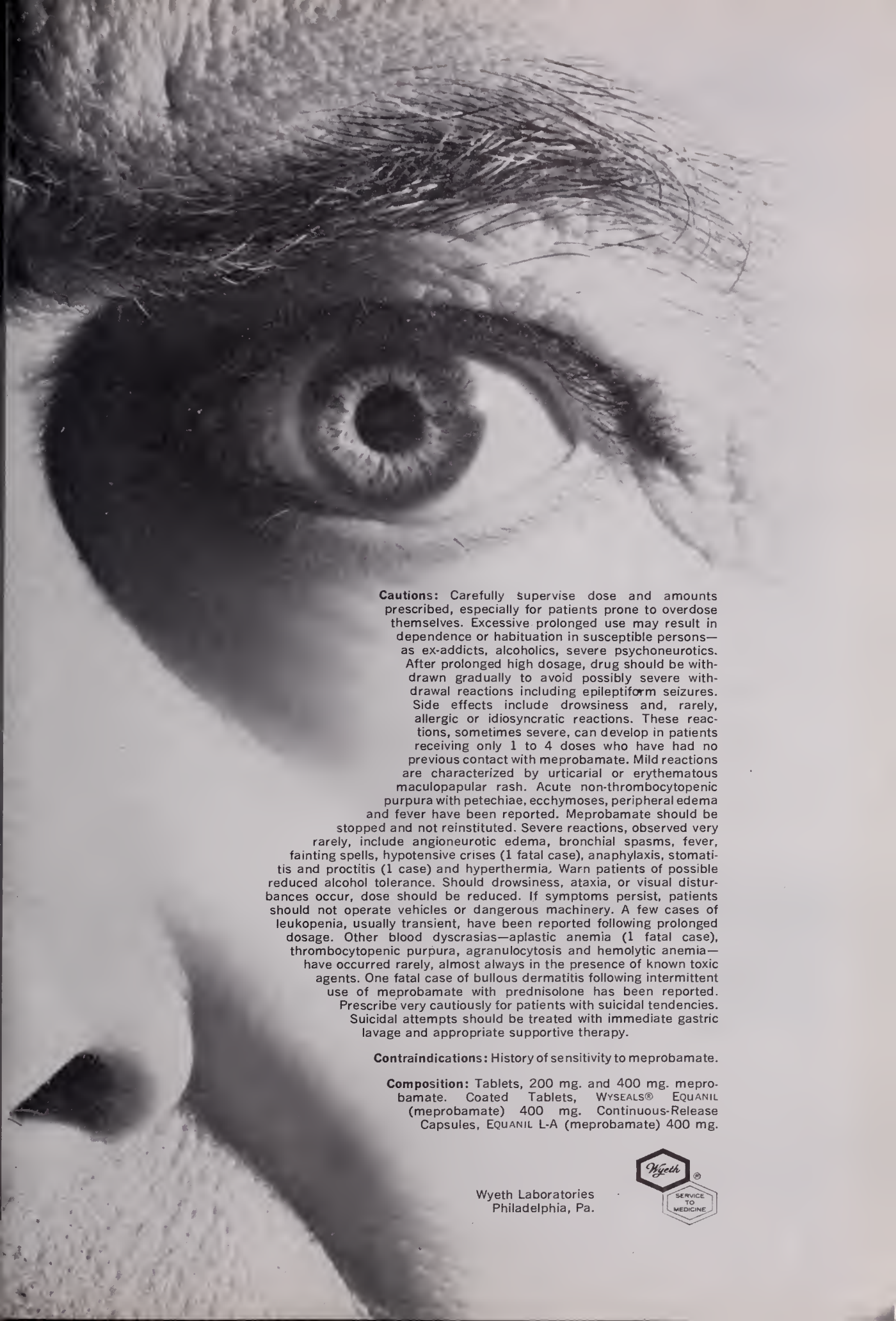
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**3 a.m.**

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**Cautions:** Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use may result in dependence or habituation in susceptible persons—as ex-addicts, alcoholics, severe psychoneurotics. After prolonged high dosage, drug should be withdrawn gradually to avoid possibly severe withdrawal reactions including epileptiform seizures. Side effects include drowsiness and, rarely, allergic or idiosyncratic reactions. These reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Mild reactions are characterized by urticarial or erythematous maculopapular rash. Acute non-thrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever have been reported. Meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioneurotic edema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. Warn patients of possible reduced alcohol tolerance. Should drowsiness, ataxia, or visual disturbances occur, dose should be reduced. If symptoms persist, patients should not operate vehicles or dangerous machinery. A few cases of leukopenia, usually transient, have been reported following prolonged dosage. Other blood dyscrasias—aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis and hemolytic anemia—have occurred rarely, almost always in the presence of known toxic agents. One fatal case of bullous dermatitis following intermittent use of meprobamate with prednisolone has been reported. Prescribe very cautiously for patients with suicidal tendencies. Suicidal attempts should be treated with immediate gastric lavage and appropriate supportive therapy.

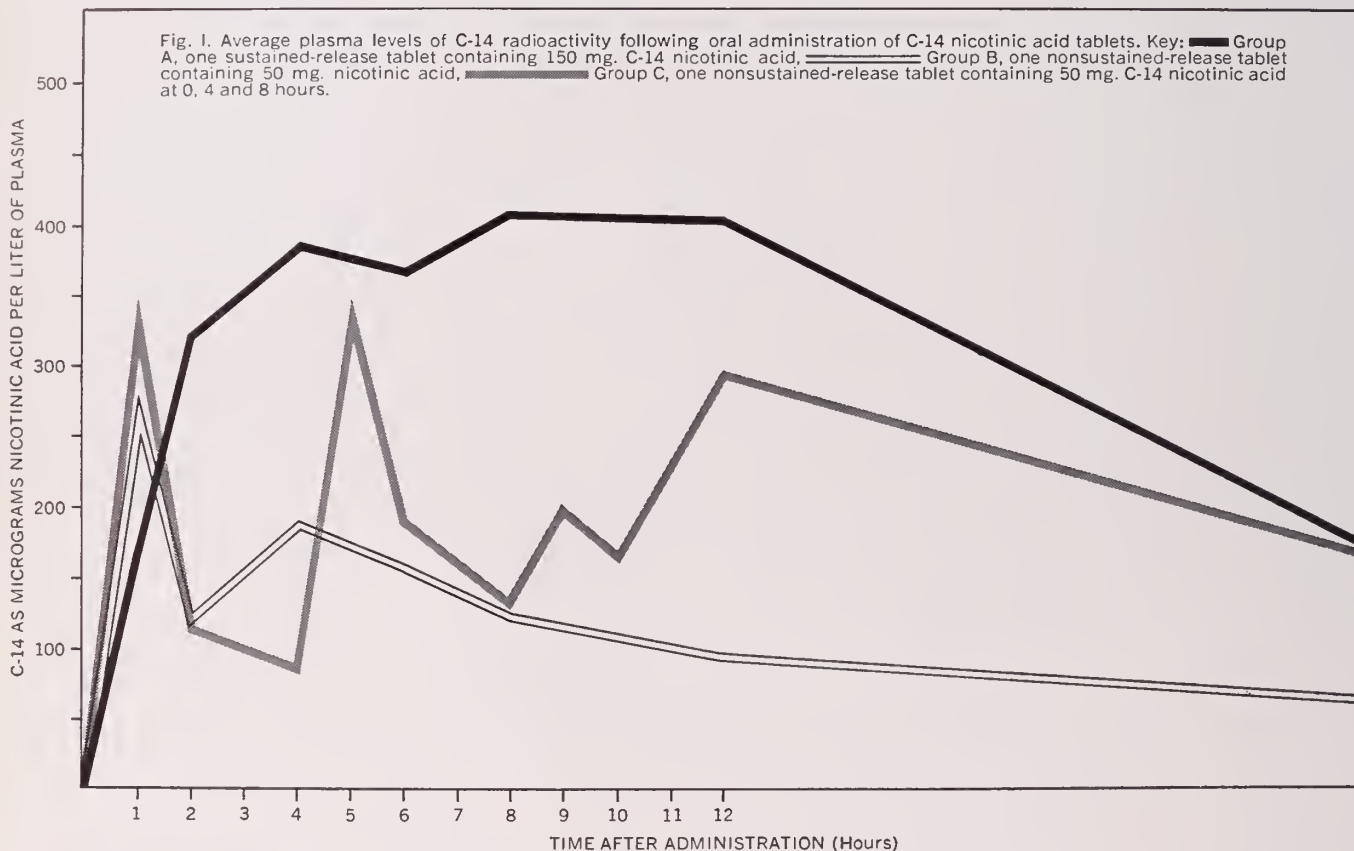
**Contraindications:** History of sensitivity to meprobamate.

**Composition:** Tablets, 200 mg. and 400 mg. meprobamate. Coated Tablets, WYSEALS® EQUANIL (meprobamate) 400 mg. Continuous-Release Capsules, EQUANIL L-A (meprobamate) 400 mg.

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# Sustained circulatory, respiratory and cerebral stimulation for the



(fewer absent doses by  
absent-minded patients)

Human volunteer subjects were administered Geroniazol TT tablets with the nicotinic acid component made radioactive with C-14. Plasma and urine samples were analyzed. (See Figures I and II) The radioactive tracer study substantiated the previous clinical evidence that the release of nicotinic acid from the Geroniazol TT tablet produced a gradual rise in plasma levels to a plateau for a total of 12 hours and more.

Such proven sustained activity makes the management of geriatric patients much easier by minimizing the possibility of neglected doses through absent-

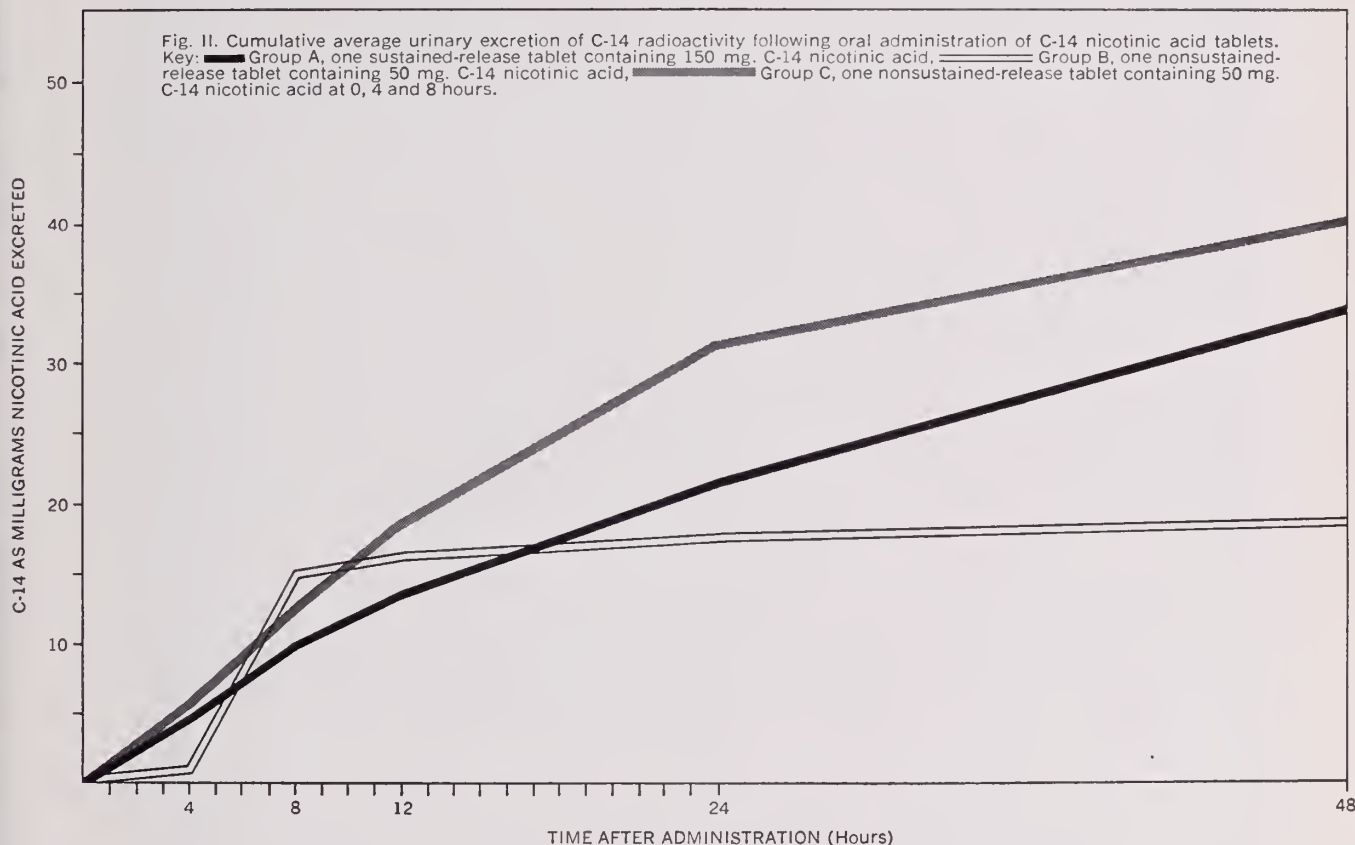
mindedness or senile confusion. Therapy *can* be continuous on a daily dose of only one Geroniazol TT tablet every 12 hours.

The gradual release of nicotinic acid in Geroniazol TT will provide the well-known peripheral vasodilatation needed in patients with deficient circulation and with a minimum amount (if any) of "flushing." Also, cerebrovascular circulation is complemented by pentylenetetrazol, long-established as a cerebral and respiratory stimulant.

Geroniazol TT improves the typical, unfortunate, signs of senile confusion. Patients become more alert,



# aged and debilitated



less confused and moody. Personal care, memory, emotional stability, social attention improve. Fatigue, apathy and irritability are reduced.

A prescription for 100 tablets of Geroniazol TT will permit your patients to enjoy the benefits of time-prolonged nicotinic acid/pentylentetrazol therapy, at an economical price. Dosage is only one tablet every 12 hours.

**Contraindications:** There are no known contraindications.

**Precautions:** Exercise caution when treating patients with a low convulsive threshold.

**Side Effects:** Side effects are rarely encountered, however due to the vasodilatation effect of nicotinic acid, transitory mild nausea, flushing, tingling and pruritus are possible.

**Dosage:** One tablet every 12 hours.

**Supplied:** Prescribe bottles of 100 tablets, to take advantage of recent price reduction.

**References:** 1. Report by Nuclear Science & Engineering Corp., Pittsburgh, Pa., in files of Philips Roxane Laboratories. 2. Connolly, R.: W. Virginia Med. J. 56:263 (Aug.) 1960. 3. Curran, T. R., and Phelps, D. K.: Am. Pract. & Digest Treat. 11:617 (July) 1960.



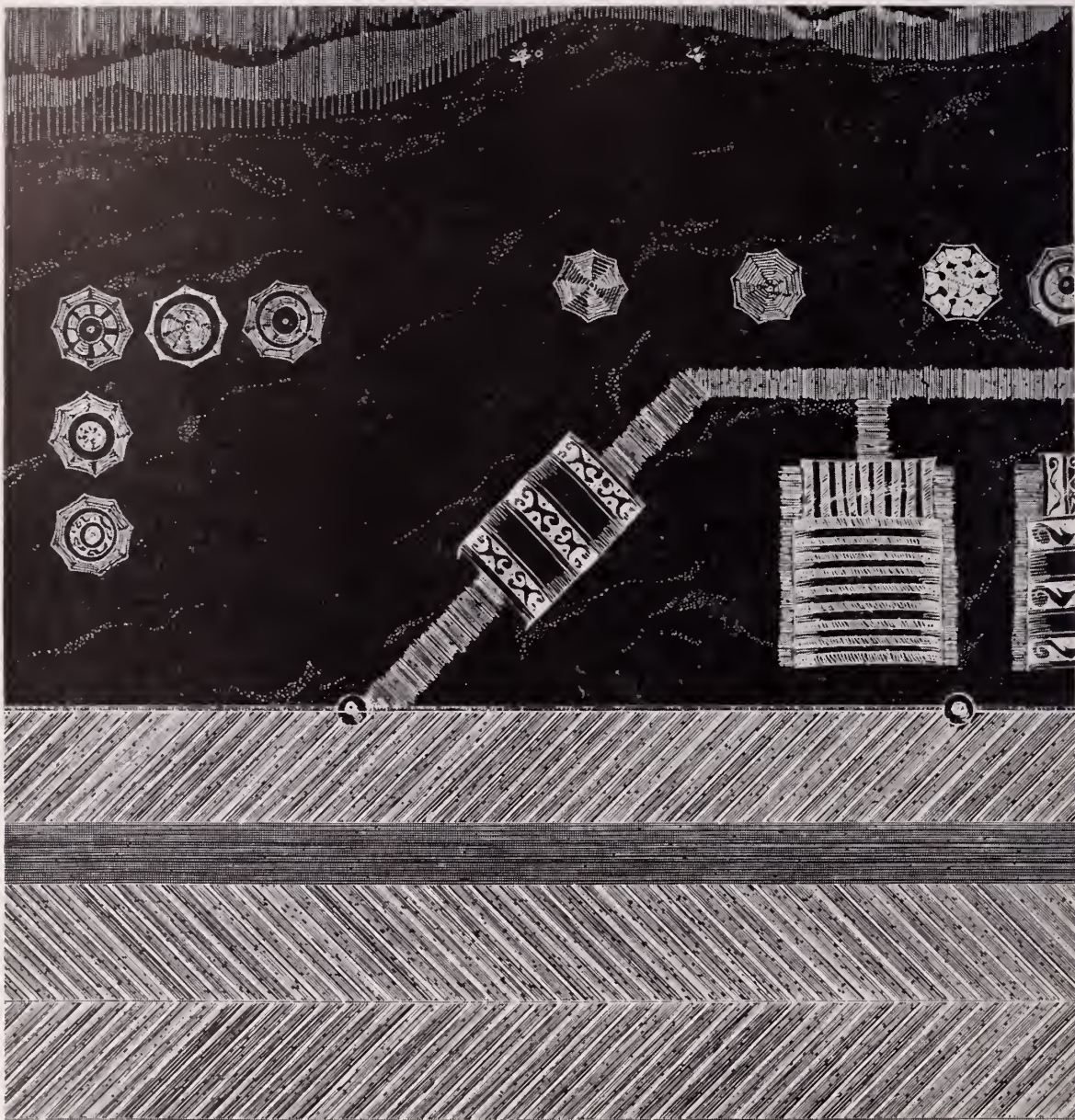
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# Geroniazol<sup>®</sup> TT

nicotinic acid 150 mg., pentylentetrazol 300 mg.  
Tempotrol<sup>®</sup> Time Controlled Tablet



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Although there are more than 60 ethical laxatives available for the constipated patient, many, unfortunately, do not really produce an effect much like a normal bowel movement. Instead they whip the bowel, torment it and leave it irritated, inflamed and exhausted.

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Dulcolax, brand of bisacodyl tablets (5 mg.)

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## DEMETHYLCHLORTETRACYCLINE

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**Effective** in a wide range of everyday infections—respiratory, urinary tract and others—in the young and aged—the acutely or chronically ill—when the offending organisms are tetracycline-sensitive.

**Contraindication**—History of hypersensitivity to demethylchlortetracycline.

**Warning**—In renal impairment, usual doses may lead to excessive systemic accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort.

**Precautions and Side Effects**—Overgrowth of nonsusceptible organisms may occur. Constant observation is essen-

tial. If new infections appear, appropriate measures should be taken. Use of demethylchlortetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect occurs mostly during long-term use but has also been observed in short treatment courses. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment. Side reactions include glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis and dermatitis. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Anaphylactoid reactions have been reported.

**Average Adult Daily Dosage:** 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products.

**Capsules:** 150 mg; **Tablets:** film coated, 300 mg, 150 mg, and 75 mg of demethylchlortetracycline HCl.

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No *in vitro* test can duplicate a clinical situation on living skin. 'Neosporin' (polymyxin B — bacitracin — neomycin) Ointment has consistently proven its effectiveness in thousands of cases of bacterial skin infection. The spectra of the three antibiotics overlap in such a way as to provide bactericidal action against most pathogenic bacteria likely to be found topically. Diffusion of the antibiotics from the special petrolatum base is rapid since they are insoluble in the petrolatum, but readily soluble in tissue fluids. The Ointment is bland and nonirritating.

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**Contraindications:** This product is contraindicated in those individuals who have shown hypersensitivity to any of its components.

**Supplied:** Tubes of 1 oz., ½ oz. with applicator tip, and ⅛ oz. with ophthalmic tip.

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For the past  
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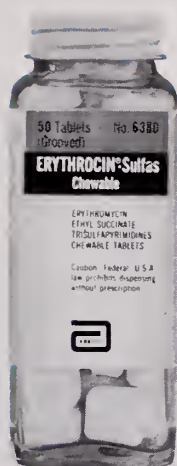
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Perhaps there have been times when you wanted to prescribe erythromycin and triple sulfas for little patients. Now you can—with a choice of two new fine-tasting pediatric forms.

# **New—Two Pediatric Forms of Erythromycin and Triple Sulfas**



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In clinical trials<sup>1,2</sup>, this orange-flavored tablet was given to 55 patients, aged four months to 18 years.

Diagnoses (multiple in some cases) represented a cross section of bacterial infections commonly seen in pediatric office practice.

Therapy was given from three to 12 days, with an average of six days.

Of the 55 patients, 30 were reported cured within 72 hours, while 22 showed partial recovery within the same time, and subsequent clinical cure.

**A clinical cure rate of 94.5%**

1. Case Reports on File, Dept. Clin. Development, Abbott Laboratories.
2. Polley, R.F.L., Use of Erythromycin-Sulfas in Office Practice, Western Med., 7:177, July, 1966.



## **ERYTHROCIN®-SULFAS Granules** (Erythromycin ethyl succinate-trisulfapyrimidines granules for oral suspension)

87 patients were treated<sup>1,2</sup>—all children, ages four months to 15 years.

The diagnoses were multiple in some cases and were chiefly bacterial infections of the respiratory tract.

Dosage was maintained from three to 10 days; average treatment was five days. All of the ill children accepted the orange-flavored suspension favorably.

53 were clinically cured within 72 hours, while 32 showed partial relief within the same time, and subsequent clinical cure.

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**A clinical cure rate of 97.7%**



Brief  
Summary  
on next  
page



## ERYTHROCIN®-SULFAS

### Brief Summary

**Contraindications:** Known sensitivity to erythromycin or sulfonamides. Because of the possibility of kernicterus with sulfonamides, do not use in pregnancy at term, premature or newborn infants.

**Warnings:** As with other forms of sulfonamide therapy, carefully evaluate patients with liver or kidney damage, urinary obstruction, or blood dyscrasia. Deaths have been reported from hypersensitivity reactions and blood dyscrasias following use of sulfonamides. Perform blood counts and liver and kidney function tests if used repeatedly at close intervals or for long periods.

**Precautions, Side Effects:** Occasionally mild abdominal discomfort, nausea or vomiting may occur with erythromycin, generally controlled by reduction of dosage. Mild allergic reactions (such as urticaria and other skin rashes) may occur. Serious allergic reactions have been extremely infrequent. Use sulfonamides with caution in patients with a history of allergy. Assure adequate fluid intake to prevent crystalluria and institute alkali therapy if indicated. If overgrowth of nonsusceptible organisms occurs, withdraw the drug and institute appropriate treatment. If a patient should show signs of hypersensitivity, appropriate countermeasures (e.g. epinephrine, steroids, etc.) should be administered and the drug withdrawn.

**Adverse Reactions:** Sulfonamide therapy may be associated with headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

Side effects due to erythromycin are infrequent, but occasional abdominal discomfort, nausea, or vomiting, urticaria and other skin rashes may occur.

**Supplied:** The Granules for Oral Suspension come in bottles of 60 ml. and 150 ml. The Chewable tablets are in bottles of 50. Each 5-ml. teaspoonful of reconstituted Granules or each Chewable tablet provides erythromycin ethyl succinate equivalent to 125 mg. of erythromycin activity and 167 mg. of each of sulfadiazine, sulfamerazine and sulfamethazine.

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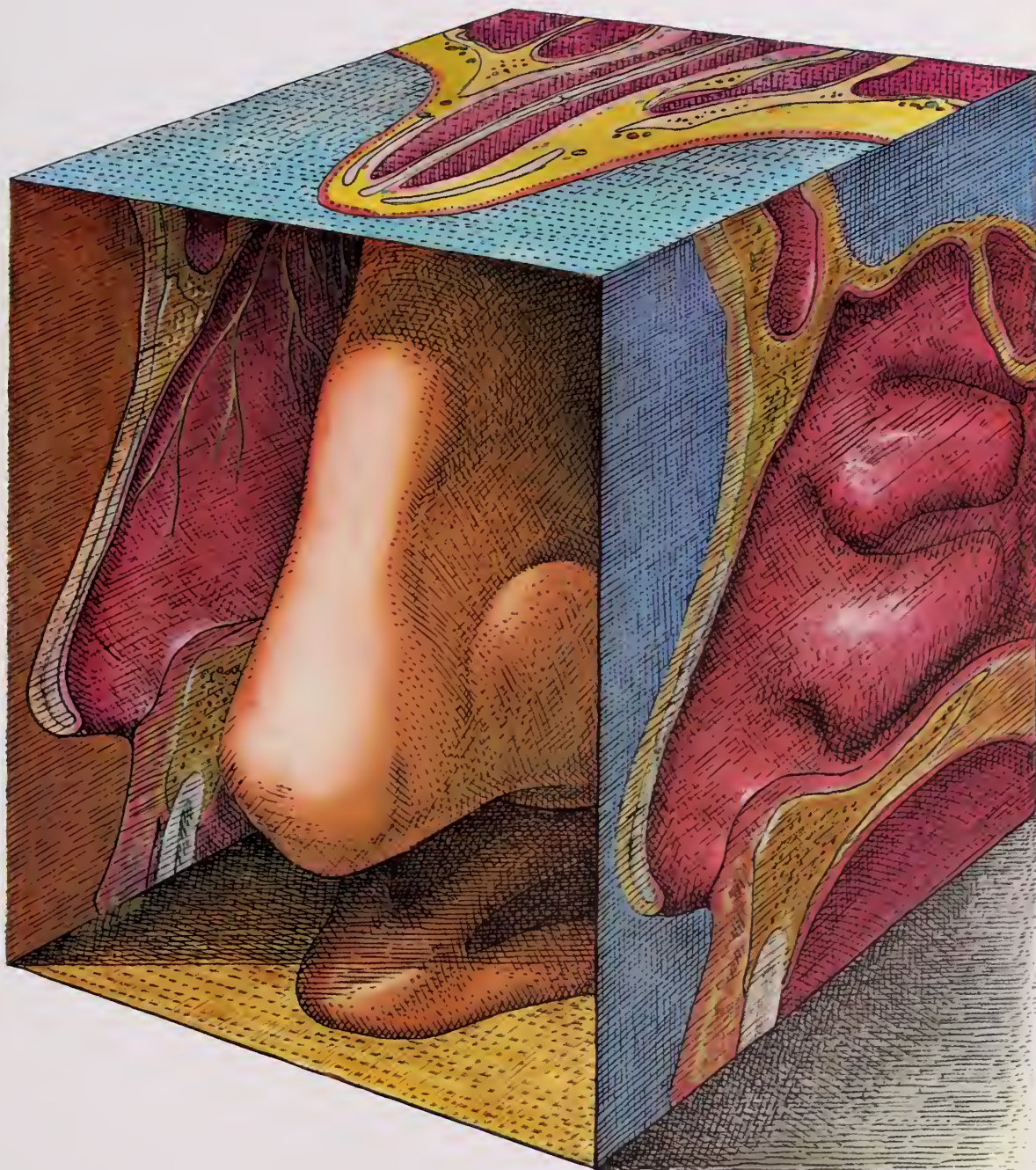
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DORSEY

spring 1967

# Season

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this issue: the ubiquitous world of  summer allergies





# the ubiquitous world of summer allergies

Donald L. Unger, M.D. • Clinical Assistant Professor, Department of Medicine (Allergy), Stritch School of Medicine (Loyola).

In the Spring a young man's fancy lightly turns to thoughts of—allergies. This is at least true of the 10% of the population who have hay fever and the 4% who have asthma.<sup>1</sup> The snow melts, the trees blossom and the noses run. Patients who were fine all winter may not be enthralled by the sight of the first robin or the blossoming of a crocus, for their appearances may precede the "sneezin' season."

Allergies in general can be divided into winter allergies and summer allergies. In the winter the main problems are inside the house: e.g. dogs, cats, dust and feathers. Houses in the northern half of the country become so dry that it becomes essential to add humidity to the home; this is a far cry from the damp summer months with the moldy basements and need for dehumidifiers.

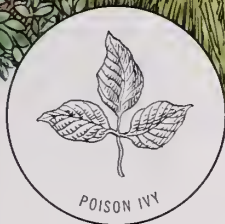
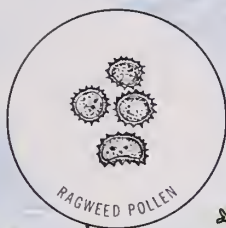
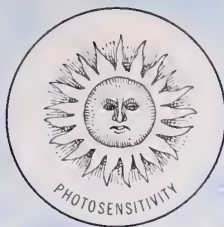
**E**arly in April trees begin to pollinate, with each tree having about a two week period of pollination. A particular patient may be sensitive to only one tree and thus have his hay fever for such a short time that he thinks he has a cold.<sup>2</sup> The entire tree season starts about April 1 and ends about Memorial Day, al-

though all hay fever seasons are blurred and prolonged in the southern part of the country. Tree pollen is usually very heavy and a person may well have most of his exposure from those trees immediately surrounding his home.

Grasses pollinate from about May 15 until July 4, and cause "rose fever." Grass pollens are somewhat lighter and more buoyant than tree pollens, and are much more ubiquitous. While there are several varieties of grasses in the United States, they are so closely related antigenically that a person sensitive to one is generally sensitive to them all.<sup>3</sup> Thus, while the tree season is really several small seasons intertwined, the grass season will usually result in symptoms for a more prolonged period. Obviously, a grass-sensitive patient will have trouble only when grass is pollinating—he will have to think of another excuse not to mow the lawn after July 4.

**R**agweed is the "Big Daddy" of them all in the eastern two-thirds of the country. Pollination is generally from mid-August until the end of September, with the predicted lower counts and longer seasons





in the southern part of the country. Ragweed is a very light pollen which may be windborne for hundreds of miles. An interesting study was made in New York City, in which 90% or more of the ragweed plants were destroyed in three of the five boroughs; pollen counts done during the season were virtually identical in all five.<sup>4</sup>

Ragweed is, of course, the most common cause of hay fever and is associated with an incredible loss of man hours from work each year. Many is the patient who travels to areas where the pollen count is low, just to avoid having symptoms. There is no ragweed anywhere in the world except the United States and portions of Canada and Mexico.

**W**hile molds are present through the year, the most important ones predominate from April until November. An old wives' tale has ragweed ending with the first frost, when actually it ends a good month earlier. It is *Alternaria*—the kingpin of the molds—that meets a sudden demise with the first frost. *Alternaria*-sensitive patients are in their glory when there is snow on the ground, and might be ideally suited to man the radar stations in Alaska. In September and October, *Alternaria* counts are at their highest, perhaps associated with the burning of leaves. Other molds such as *Hormodendrum* and

*Helminthosporium* are associated with the warmer weather, as opposed to *Penicillium* and *Aspergillus* which are household molds.

Summer also means the return of our much maligned associates—bugs. Insects cause allergic symptoms by two methods: the bite or sting of the Hymenoptera group, and the inhalation of particles of the bodies of various insects. Wasp stings are the oldest known form of allergy, as they caused the death of one of the pharaohs in ancient Egypt.<sup>5</sup> Bees, wasps and hornets account for many deaths in this country, and those sensitive to them should carry special treatment kits at all times; a few minutes delay in the administration of epinephrine to such a patient, might be the difference between life and death. Inhalation of particles of insects may cause sneezing and wheezing in a susceptible individual.<sup>6</sup> Both of these forms of insect allergy may be benefitted by hyposensitization.

The insect recognizes no professional bounds. He is as apt to bite the physician as the patient. So this season, beware of bugs. And beware, too, of poison ivy. That pleasant stroll through the woods and underbrush with the Boy Scouts might turn into a

*(Concluded on following page)*

to relieve



summer allergies

**Triaminic<sup>®</sup>**

Each timed-release tablet contains phenylpropanolamine hydrochloride 50 mg., pheniramine maleate 25 mg. and pyrilamine maleate 25 mg.

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nightmare for the botanically uninitiated in the causes of rhus dermatitis (poison ivy, poison oak and poison sumac). Although you may have been careful, your dog may not have noted that it wasn't clover he jumped through, but poison ivy. His return to your side may give you the rhus dermatitis that you so carefully avoided. That heavenly campfire may be emitting particles of rhus oil to produce an airborne contact dermatitis of the exposed areas of the body.

**a**nother fascinating, but rather infrequent type of summer allergy is physical allergy. Some people sneeze on exposure to sunlight, while others break out in rashes, usually on the exposed parts of the body. These rashes may well follow the administration of various photosensitizing drugs, e.g. demethylchlortetracycline.<sup>7</sup> Another form of physical allergy and one that may be lethal in the summer, is cold allergy. Yes, I mean cold allergy, not heat allergy. The cool dip on a hot day with its consequent sudden chilling of the body, may be the coup de grace for a cold sensitive patient.<sup>8</sup> It is customary to write "heart attack" on the death certificate, even though the victim may have been an 18-year-old boy who looks like a Greek god.

Lest the reader be depressed by this saga of afflictions associated with the warmer months, perhaps he should remember that it is also a time for swimming, baseball, lying in the sun and taking that long-planned vacation. So let's all join in a chorus of "In the Good Old Summertime," as we sneeze, wheeze and scratch. Be careful of your suntan lotion, however; it may cause you a contact dermatitis.

**References** 1. Unger, L.: Bronchial asthma. Charles C. Thomas Co. p. 47, 1946. 2. Samter, M.: Immunological diseases. Little, Brown and Co. p. 513, 1965. 3. Wodehouse, R. P.: Antigenic analysis by gel diffusions: 2. Grass pollen. *Int. Arch. Allerg.* 6:65, 1955. 4. Cohart, E. M., and Kandle, R. P.: The Effects of a ragweed control program on ragweed pollen counts, *J. Allergy* 30:287, 1959. 5. Woddell, L. S.: Egyptian civilization: Its origin and real chronology and Sumerian origin of Egyptian hieroglyphics. London: Luzak & Co. 1930. 6. Parlato, S. J.: The sandfly (Caddis fly) as an exciting cause of allergic coryza and asthma: II. Its relative frequency, *J. Allergy* 1:307, 1930. 7. Ozere, R. L.: Demethylchlortetracycline photosensitivity. *Canad. M. A. J.* 85:1199, 1961. 8. Horton, B. T., Braun, G. E., and Roth, G. M.: Hypersensitiveness to colds, *JAMA* 107:1263, 1936.

# How can he be a sport with a runny nose?



For summer allergies, summer colds, or nasal congestion due to almost any cause, you prescribe quick r-e-l-i-e-f with Triaminic. It's ideal for summer allergies:

1. Acts in 15-30 minutes due to decongestant.
2. Follows up with balanced dual antihistamines.
3. Up to 24-hour 'round the clock relief when dosed one tablet at morning, mid-afternoon and evening.

Summer time is sport time and who can be a sport with a runny nose?

provide patient comfort  
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summer allergies

Each timed-release tablet contains:

Phenylpropanolamine hydrochloride	50 mg.
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Side effects: Occasional drowsiness, blurred vision, cardiac palpitation, flushing, dizziness, nervousness or gastrointestinal upsets.

Precautions: The patient should be advised not to drive a car or operate dangerous machinery if drowsiness occurs. Use with caution in patients with hypertension, heart disease, diabetes or thyrotoxicosis.

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*She simply sits while the party goes on around her, already used to being the girl who is left out. She tries to lose weight—but her emotions won't let her. She becomes irritable and depressed when she doesn't eat, and anxious when she considers her future. So each time she gives up.*

*"What can I do?" she asks when she visits your office.  
"How can I ever stay on a diet and lose weight?"*

**A PARTICULAR COMBINATION OF ACTIONS**

## **Ambar #2 Extentabs®**

methamphetamine hydrochloride 15 mg., phenobarbital 64.8 mg. (1 gr.)  
(Warning: may be habit forming).

**FOR THE NEEDS OF THE DIETING WOMAN**

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Also available: Ambar #1 Extentabs®—methamphetamine hydrochloride 10 mg., phenobarbital 64.8 mg. (1 gr.) (Warning: may be habit forming).

**BRIEF SUMMARY / Indications:** Ambar suppresses appetite and helps offset emotional reactions to dieting. **Side Effects:** Nervousness or excitement occasionally noted, but usually infrequent at recommended dosages. Slight drowsiness has been reported rarely. **Precautions:** Administer with caution in the presence of cardiovascular disease or hypertension. **Contraindications:** Hypersensitivity to barbiturates or sympathomimetics; patients with advanced renal or hepatic disease. See package insert for further details.





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## VALIUM<sup>®</sup> (diazepam)Roche<sup>®</sup>

Before prescribing, please consult complete product information, a summary of which follows:

**Contraindications:** Infants, patients with history of convulsive disorders, glaucoma or known hypersensitivity to drug.

**Warning:** Not of value in the treatment of psychotic patients, and should not be employed in lieu of appropriate treatment.

**Precautions:** Limit dosage to smallest effective amount in elderly or debilitated patients (not more than 1 mg, one or two times daily initially) to preclude ataxia or oversedation, increasing gradually as needed or tolerated. As is true of all CNS-acting drugs, until correct maintenance dosage is established, advise patients against possibly hazardous procedures requiring complete mental alertness or physical coordination. Driving during therapy not recommended. In general, concurrent use with other psychotropic agents is not recommended. If such combination therapy is used, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of Valium (diazepam), such as phenothiazines, barbiturates, MAO inhibitors and other antidepressants. Advise patients against simultaneous ingestion of alcohol or other CNS depressants. Safe use in pregnancy not established. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Observe usual precautions in impaired renal or hepatic function. Periodic blood counts and liver function tests advisable in long-term use. Cease therapy gradually.

**Side Effects:** Side effects (usually dose-related) are fatigue, drowsiness and ataxia. Also reported: mild nausea, dizziness, blurred vision, diplopia, headache, incontinence, slurred speech, tremor and skin rash; paradoxical reactions (excitement, depression, stimulation, sleep disturbances, acute hyperexcited states, hallucinations); changes in EEG patterns during and after drug treatment. Abrupt cessation after prolonged overdosage may produce withdrawal symptoms (convulsions, tremor, abdominal and muscle cramps, vomiting, sweating) similar to those seen with barbiturates, meprobamate and chlorthalidox-ide HCl.

**Dosage—Adults:** Mild to moderate psychoneurotic reactions, 2 to 5 mg b.i.d. or t.i.d.; severe psychoneurotic reactions, 5 to 10 mg t.i.d. or q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; muscle spasm with cerebral palsy or athetosis, 2 to 10 mg t.i.d. or q.i.d. *Geriatric patients:* 1 or 2 mg/day initially, increase gradually as needed and tolerated. (See Precautions)

**Supplied:** Valium<sup>®</sup> (diazepam) Tablets, 2 mg, 5 mg and 10 mg; bottles of 50 and 500.



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The nystatin can prevent overgrowth of monilia; the phosphate complex delivers tetracycline to the blood rapidly. Side effects are infrequent.

### High-Risk Patients

Tetrex-F (tetracycline phosphate complex-nystatin) is especially useful in patients most susceptible to fungal overgrowth during tetracycline therapy: (1) the elderly or debilitated, (2) young children, (3) the diabetic, (4) those on long-term tetracycline therapy, (5) those on steroid therapy, (6) those who have had moniliasis before, and (7) pregnant patients with a history of monilial vaginitis.

When you start with economical Tetrex-F (tetracycline phosphate complex-nystatin), you can complete the full course of broad-

spectrum therapy with less chance of losing control elsewhere. A good start for a healthy finish.

**PRESCRIBING INFORMATION:** For complete information consult Official Package Circular. *Indications:* Infections of respiratory, gastrointestinal and genitourinary tracts and skin and soft tissues due to tetracycline-sensitive organisms, in patients with increased susceptibility to monilial infections. *Contraindications:* The drug is contraindicated in patients hypersensitive to its components. *Warnings:* Photodynamic reactions have been produced by tetracyclines. Natural and artificial sunlight should be avoided during therapy. Stop treatment if skin discomfort occurs. With renal impairment, systemic accumulation and hepatotoxicity may occur. In this situation, lower doses should be used. Tooth staining and enamel hypoplasia may be induced during tooth development (last trimester of pregnancy, neonatal period and childhood). *Precautions:* Bacterial superinfections may occur. Infants may develop increased intracranial pressure with bulging fontanels. In gonorrheal therapy, serologic tests for syphilis should be conducted initially and monthly for 3 months. *Adverse Reactions:* Glossitis, stomatitis, nausea, diarrhea, flatulence, proctitis, vaginitis, dermatitis, and allergic reactions may occur. *Usual Adult Dosage:* 1 capsule q.i.d. Continue for 10 days in Beta-hemolytic streptococcal infections. Administer one hour before or two hours after meals. *Supplied:* Capsules, bottles of 16 and 100. Each capsule contains tetracycline phosphate complex equivalent to 250 mg. tetracycline HCl activity and 250,000 units of nystatin. For Oral Suspension, 125 mg. tetracycline and 125,000 u. nystatin/5 ml., 60 ml. bottles.

**BRISTOL**

BRISTOL LABORATORIES  
Division of Bristol-Myers Company  
Syracuse, New York 13201





"Livingston... vertigo is my doom!"  
Cried Stanley in his doctor's room.



Said the doc, "For your ills  
I've got just the pills."



Said Stan,  
"Antivert, I presume."



## Antivert<sup>®</sup> (meclizine HCl, niacin) stops vertigo

Tablets: (meclizine HCl 12.5 mg. and niacin 50 mg.) Syrup: (each 5 cc. teaspoonful contains meclizine HCl 6.25 mg. and niacin 25 mg.)

**Most widely prescribed anti-vertigo agent<sup>1</sup>**  
**Complete to moderate relief of symptoms**  
**in 9 out of 10 patients<sup>2</sup>**

Antivert, the leading anti-vertigo product,<sup>1</sup> combines meclizine HCl, an outstanding drug for treatment of vestibular dysfunction, with niacin, a drug of choice for prompt vasodilation. Prescribe Antivert for your patients with vertigo, Meniere's syndrome and allied disorders.

**Precautions and contraindications:** Frequent, short-lived reactions include: cutaneous flushing, sensations of warmth, tingling and itching, burning of skin, increased gastrointestinal motility, and sebaceous gland activity. In explaining these reactions to the patient, it is suggested that they be regarded as a desirable physiological sign that the niacin is carrying out its intended function of vasodilation. Because of this vasodilation, severe hypotension and hemorrhage are obvious contraindications to Antivert therapy. Although the incidence of drowsiness and other atropine-like side effects such as dry mouth and blurring of vision is low, the physician should alert the patient to the need for due precautions when en-

gaging in activities where alertness is mandatory. **Use in women of childbearing age:** A review of available animal data reveals that meclizine exerts a teratogenic response in the rat. In one study a dose of 50 mg./kg./day (50 times the maximum recommended human dose) produced cleft palate in 2 of 87 fetuses when administered to the rat at critical times during the first 15 days of gestation. At doses of 125 mg./kg./day, meclizine will produce 100% incidence of cleft palate in the rat. At doses of 25 mg./kg./day, decreased calcification of the vertebrae and relative shortening of the limbs were also produced in the rat, but experts disagree as to whether this is a teratogenic response. While available clinical data are inconclusive, scientific experts are of the opinion that this drug may possess a potential for adverse effects on the human fetus. Consequently, consideration should be given to initial use of a nonphenothiazine agent that is not suspected of having a teratogenic potential. In any case, the dosage and duration of treatment should be kept to a minimum. **Dosage:** One tablet or one to two teaspoonfuls (5-10 cc.) t.i.d. just before meals. Specific requirements for individual patients should be determined by the physician. **Supplied:** Tablets in bottles of 100 and 500. Syrup in pint bottles. RX only.

**References:** 1. Based on 1966 data from independent physicians' market survey organization. 2. Scal, J. C.: Eye Ear Nose & Throat Month. 38:738 (Sept.) 1959.

## Neobon<sup>®</sup> geriatric <sup>+</sup> supplement helps keep them 'on the go'

Each capsule contains:

### (1) Vitamins and Minerals

Vitamin A (acetate)	2000 U.S.P. units
Vitamin D (ergocalciferol, U.S.P.)	200 U.S.P. units
Vitamin B <sub>1</sub> (thiamine mononitrate, U.S.P.)	0.5 mg.
Vitamin B <sub>2</sub> (riboflavin, U.S.P.)	0.5 mg.
Vitamin B <sub>6</sub> (pyridoxine HCl, U.S.P.)	0.5 mg.
Niacinamide, U.S.P.	50 mg.
Calcium pantothenate, U.S.P.	5 mg.
Vitamin E (di-alpha tocopheryl acetate)	5 I.U.
Rutin	5 mg.
Cobalt (from cobalt sulfate)	0.033 mg.
Molybdenum (from sodium molybdate)	0.066 mg.
Copper (from copper sulfate)	0.33 mg.
Manganese (from manganese sulfate)	0.33 mg.
Magnesium (from magnesium sulfate)	2 mg.
Iodine (from potassium iodide)	0.05 mg.
Potassium (from potassium sulfate)	1.66 mg.
Zinc (from zinc sulfate)	0.4 mg.

### (2) Hematopoietic Factors

Iron (from ferrous sulfate)	3.40 mg.
Vitamin B <sub>12</sub> (cobalamin concentrate, N.F., as Stablets <sup>®</sup> )	1 mcg.
Vitamin C (ascorbic acid, U.S.P.)	50 mg.

### (3) Digestive Enzyme

Pancreatic substance <sup>®</sup>	50 mg.
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### (4) Gonadal Hormones

Methyltestosterone, N.F.	1.0 mg.
Ethinyl Estradiol, U.S.P.	0.006 mg.

### (5) Amino Acids

L-lysine (monohydrochloride)	50 mg.
L-Glutamic acid	30 mg.

<sup>®</sup>Enzymatically active defatted material obtained from 250 mg. of whole fresh pancreas.

For older adults who require it, daily supplementation with Neobon can help overcome decreases in endogenous gonadal hormone production, as well as deficiencies of iron, vitamins and other nutritional factors. In a single convenient capsule, Neobon provides vitamins, minerals, gonadal hormones, hematopoietic factors, digestive enzymes, and amino acids—all selected for adjunctive therapeutic value in the geriatric syndrome. For example, one of the gonadal hormones in Neobon is ethinyl estradiol. It is more slowly metabolized in the body than natural estrogens or their esters.

**Precautions:** Contraindicated in patients in whom estrogen or androgen therapy should not be used, as in carcinoma of the breast or prostate.

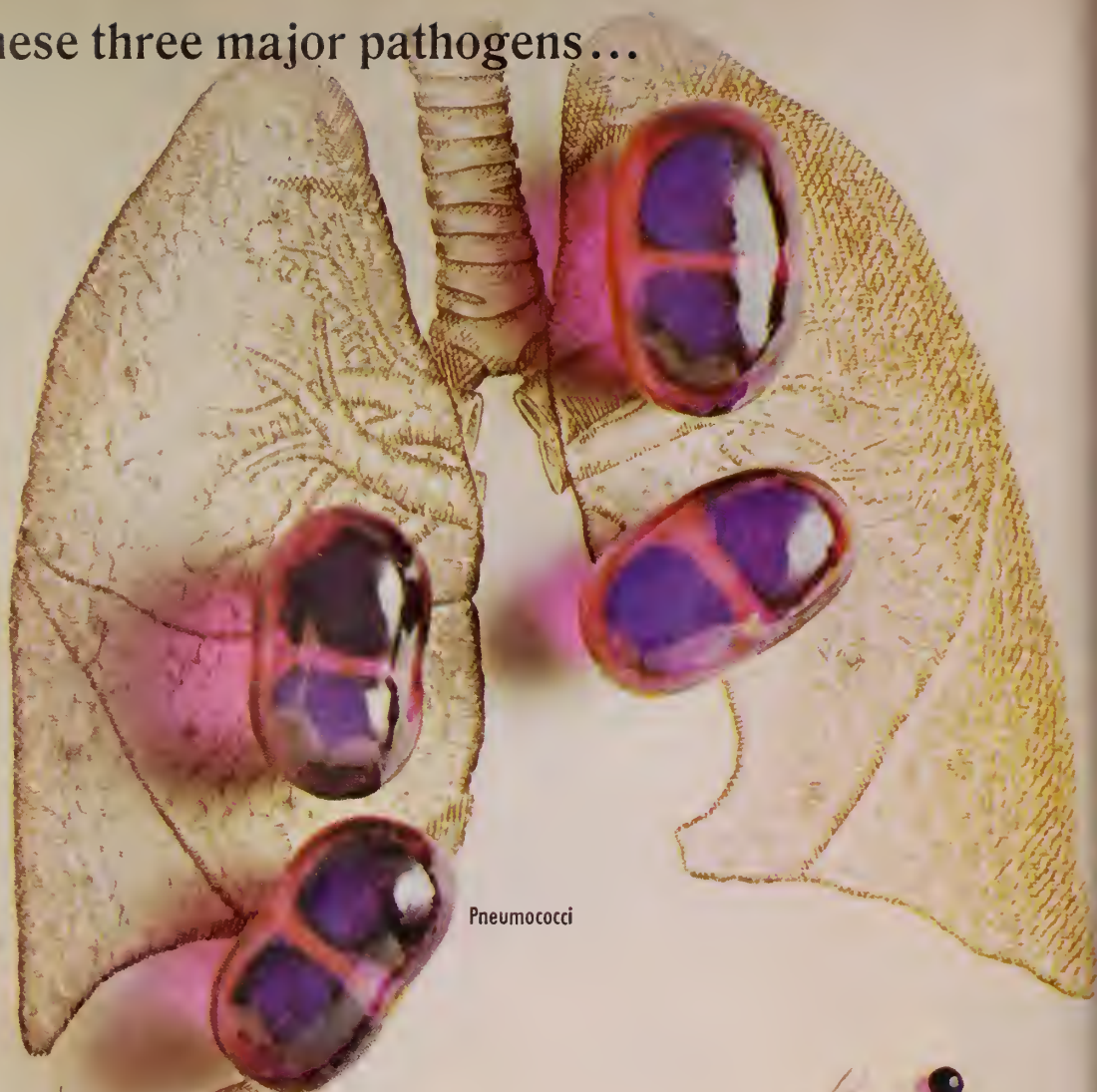
**Dosage:** One capsule, t.i.d. with meals, or as directed by physician.

**Supplied:** Bottles of 60 capsules. RX only.



**J.B. ROERIG DIVISION**  
**CHAS. PFIZER & CO., INC.**  
**NEW YORK, N.Y. 10017**

Against these three major pathogens...



Pneumococci

Penicillin-Sensitive  
Staphylococci



Beta-Hemolytic  
Streptococci





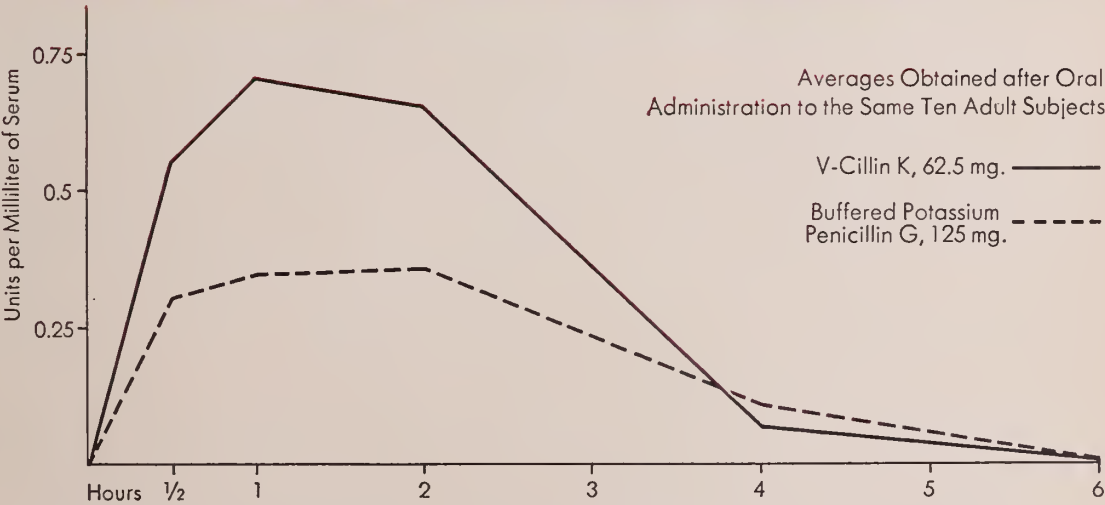
# V-Cillin K<sup>®</sup> provides dependable oral antibacterial activity

because it combines a high degree of in-vitro activity...

Antibiotic	Staph. Aureus (Penicillin-Sensitive)		Streptococcus, Group A		Diplococcus Pneumoniae	
	MIC (mcg./ml.)		MIC (mcg./ml.)		MIC (mcg./ml.)	
	Median	Range	Median	Range	Median	Range
Penicillin V	0.02	0.02-0.04	0.02	0.003-0.4	0.01	0.005-0.2
Penicillin G	0.02	0.005-1.6	0.005	0.002-0.2	0.02	0.01-0.1
Methicillin	1.6	0.4-6.3	0.2	0.1-0.4	0.2	0.1-1.6
Oxacillin	0.4	0.1-3.1	0.04	0.02-0.4	0.1	0.04-0.8
Cloxacillin	0.2	0.2-0.8	0.1	0.1-0.8	—	—
Nafcillin	0.4	0.2-0.8	0.04	0.02-0.1	0.02	0.02-0.2
Ampicillin	0.2	0.1-0.8	0.02	0.01-0.04	0.02	0.01-0.04

Adapted from Klein, J. O., and Finland, M.: New England J. Med., 269:1019, 1963.

with high blood levels, even in the presence of food



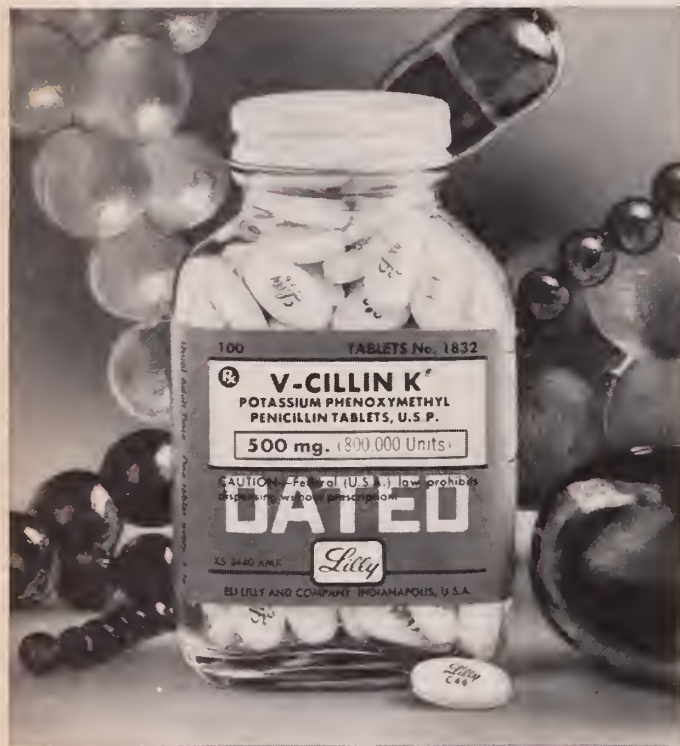
Adapted from Griffith, R. S., and Black, H. R.: Current Ther. Res., 6 253, 1964.

V-Cillin K<sup>®</sup>  700636  
Potassium Phenoxymethyl Penicillin

(See next page for prescribing information.)



# New 500 mg. tablets...a more convenient way to give high doses



**Description:** V-Cillin K is the potassium salt of V-Cillin® (phenoxy-methyl penicillin, Lilly). This chemically improved form combines acid stability with immediate solubility and rapid absorption. Higher serum levels are obtained more rapidly with this penicillin than with equal oral doses of penicillin G. The higher serum levels and acid stability of V-Cillin K make it a more dependable penicillin for oral use.

V-Cillin K, Pediatric, is an oral solution of clinically proved V-Cillin K in teaspoon dosage form. When mixed as directed, each 5 cc. (approximately one teaspoonful) will contain 125 mg. (200,000 units) phenoxy-methyl penicillin as the potassium salt.

**Indications:** V-Cillin K has been shown to be effective in the treatment of streptococcus, pneumococcus, and gonococcus infections as well as infections caused by sensitive strains of staphylococci. It may be used for the prophylaxis of streptococcus infections in patients with a history of rheumatic fever and for the prevention of bacterial endocarditis after tonsillectomy and tooth extraction in those patients with a history of rheumatic fever or congenital heart disease.

**Contraindication:** V-Cillin K should not be administered to a patient with a history of penicillin hypersensitivity.

**Warnings:** In rare instances, the use of penicillin may cause acute anaphylaxis which may prove fatal unless promptly controlled. This type of reaction appears more frequently in patients with a history of sensitivity reactions to penicillin and in those with bronchial asthma or other allergies. Resuscitative drugs should be readily available for emergency administration. These include epinephrine and pressor drugs (as well as oxygen for inhalation) for relief of immediate allergic

manifestations and antihistamines and corticosteroids for delayed effects.

**Precautions:** V-Cillin K should be used cautiously, if at all, in a patient with a strongly positive history of allergy.

In prolonged therapy with penicillin, and particularly with high parenteral dosage schedules, frequent evaluation of the renal and hemopoietic systems is recommended.

In suspected staphylococcus infections, proper laboratory studies (including sensitivity tests) should be performed.

The use of penicillin may be associated with the overgrowth of penicillin-insensitive organisms. In such cases, its administration should be discontinued, and appropriate measures should be taken.

**Adverse Reactions:** Although serious allergic reactions are much less common with administration of oral penicillin than with intramuscular forms, manifestations of penicillin allergy may occur.

Penicillin is a substance of low toxicity, but it does possess a significant index of sensitization. The following hypersensitivity reactions associated with the use of penicillin have been reported: skin rashes ranging from maculopopular eruptions to exfoliative dermatitis; urticaria; and reactions resembling serum sickness, including chills, fever, edema, arthralgia, and prostration. Severe and often fatal anaphylaxis has occurred (see Warnings). Hemolytic anemia, leukopenia, thrombocytopenia, and nephropathy are rarely observed side-effects and are usually associated with high parenteral dosage.

**Administration and Dosage:** For Tablets V-Cillin K and for V-Cillin K, Pediatric, the usual dosage ranges from 125 mg. (200,000 units) three times a day to 500 mg. (800,000 units) every four hours. For infants, the daily dosage may be 50 mg. per Kg. of body weight divided into three doses.

Beta-hemolytic streptococcus infections without associated bacteremia may be treated with 200,000 to 400,000 units three times a day. Therapy should be continued for a minimum of ten days to prevent development of rheumatic fever and/or other serious complications. Dosage for routine streptococcus prophylaxis in patients with a history of rheumatic fever or congenital heart disease may be 200,000 units once or twice daily. When such patients undergo tonsillectomy, tooth extraction, or other minor surgery, the prophylactic dose should be 500,000 units every six hours given two days prior to surgery and for two days postoperatively. If oral medication is not feasible on the day of surgery, parenteral therapy should be considered. Mild to moderately severe pneumococcus pneumonia has been treated effectively with 250 mg. every six hours.

In staphylococcus infections, 400,000 units or more should be given every six to eight hours in conjunction with indicated surgical procedures.

For gonorrhea in males, 500 mg. (800,000 units) every four hours for three doses may be employed; in females, 500 mg. every four hours for six doses are recommended. Patients with a suspected lesion of syphilis should have a dark-field examination before receiving penicillin and monthly serologic tests for a minimum of three months.

**How Supplied:** Tablets V-Cillin K, U.S.P., 125 mg. (200,000 units), in bottles of 50 and 100; and 250 mg. (400,000 units) and 500 mg. (800,000 units), in bottles of 24 and 100.

V-Cillin K, Pediatric, for Oral Solution, 125 mg. (200,000 units) per 5 cc. of solution, in 40, 80, and 150-cc.-size packages. [011867]

Additional information available to physicians upon request. Eli Lilly and Company, Indianapolis, Indiana 46206.

*Lilly*

# In peptic ulcer... antacid therapy with a new benefit



CONTAINS A BALANCED  
COMBINATION  
OF THE MOST WIDELY  
USED ANTACIDS—  
FOR RAPID  
NEUTRALIZATION.  
PLUS SIMETHICONE—  
TO CONTROL  
THE FACTOR WHICH  
ANTACIDS ALONE  
CANNOT INFLUENCE.

## Mylanta<sup>®</sup>

- In Mylanta, aluminum and magnesium hydroxides are balanced to minimize the chance of constipation or laxation and still achieve rapid acid neutralization and pain relief.
- The positive action of simethicone helps relieve the painful gas symptoms which often accompany the peptic ulcer syndrome.
- The nonfatiguing flavor and smooth, nongritty consistency of tablets and liquid encourage continued patient cooperation during long-term therapy.

**Composition:** Each Mylanta chewable tablet or teaspoonful (5 ml.) of liquid contains: magnesium hydroxide, 200 mg.; aluminum hydroxide, dried gel, 200 mg.; simethicone, 20 mg. **Dosage:** one or two tablets, well chewed or allowed to dissolve in the mouth, or one or two teaspoonfuls of liquid to be taken between meals and at bedtime.

The Stuart Company, Pasadena, California  
Division of Atlas Chemical Industries, Inc.

**Stuart**



# mudrane®

for

- EMPHYSEMA
- ASTHMA
- CHRONIC BRONCHITIS
- BRONCHIECTASIS

*The  
fast-disintegrating  
uncoated tablet  
gives relief in  
15 minutes*

*Each tablet contains:*

Potassium Iodide.....195 mg.  
Aminophylline.....130 mg.  
Phenobarbital, Caution: May be habit forming... 21 mg.  
Ephedrine HCl.....16 mg.

FEDERAL LAW PROHIBITS  
DISPENSING WITHOUT PRESCRIPTION

Precautions: Usual for aminophylline-ephedrine-phenobarbital. Iodides may cause nausea, long use may cause goiter. Discontinue if symptoms of iodism develop.

Iodide contraindications: tuberculosis, pregnancy.

#### DOSAGE

One tablet, with full glass of water, 3 or 4 times daily.

*Dispensed in bottles of 100 and 1000 tablets.*

MUDRANE GG—Formula, dosage and package identical to Mudrane—*except*—100 mg. glyceryl guaiacolate replaces the potassium iodide. The value of Mudrane cannot be enjoyed by a small group in which K.I. is contraindicated. Mudrane GG is prepared for this group.

MUDRANE GG ELIXIR—Four 5 cc teaspoonfuls is equivalent to one Mudrane GG tablet. Dosage adjusted to age and weight of child. Mudrane GG Elixir is for pediatric patients and those who think they cannot swallow tablets. Dispensed in pint and half gallon bottles.

WM. P. POYTHRESS & CO., INC.  
RICHMOND, VIRGINIA 23217

*Manufacturers of ethical pharmaceuticals since 1856*



## Take five...

LABSTIX® provides 5 important urinary findings\*—on a single reagent strip! That's *more* information than you can get from any other single reagent strip. You know the results in just 30 seconds—while the patient is still in your office—and readings are reliable and reproducible. LABSTIX is easy to handle, too. Never goes limp, even when wet, because it's made with clear, firm plastic. And results with LABSTIX are easy to read—color contrast between the test areas and the transparent plastic is clearly defined. An unexpected "positive" from testing with LABSTIX may help in detecting hidden pathology before marked symptoms are manifest.

\*Blood; ketones; glucose; protein, and pH.

AMES COMPANY  
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Elkhart, Indiana 46514



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## ...Plus one

You can extend your testing scope by including ICTOEST® Reagent Tablets, the 30-second determination for bilirubinuria—which can be an early sign of obstruction of the common bile duct, infectious hepatitis, or other liver disease. This test is also useful for detecting liver damage from carbon tetrachloride and other halogenated hydrocarbons used as industrial and household solvents. Positive findings with the urine-testing team of LABSTIX and ICTOEST can represent significant guides to patient management in many clinical situations. "Negatives" may help rule out suspected abnormalities over a broad clinical range and are important for the patient's record.

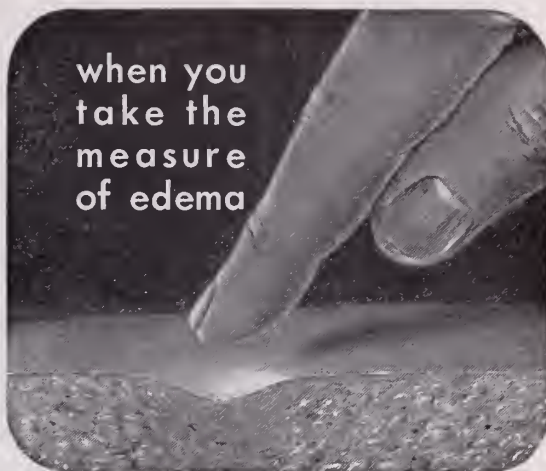
**AMES COMPANY**  
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CATEGORY NUMBER 36:88

40167



... introduce your patient to

**aQUATAG®**  
(BENZTHIAZIDE)

AQUATAG (Benzthiazide) is a potent, orally active, nonmercurial, diuretic agent. It is effective orally in producing diuresis in edema states, where it is therapeutically comparable to mercurials given parenterally. AQUATAG (Benzthiazide) is mildly antihypertensive in its own right and enhances the action of other antihypertensive drugs when used in combination.

**DIURETIC ACTION:** Clinically, the oral administration of AQUATAG (benzthiazide) results in diuretic activity within two hours with maximal natriuretic, chloruretic, and diuretic effects occurring during the fourth, fifth and sixth hours. Maintenance of response continues for approximately 12 to 18 hours. Acidosis is an unlikely complication since therapeutic doses of AQUATAG (benzthiazide) do not appreciably increase bicarbonate excretion. Edematous patients receiving 50 mg. of AQUATAG (benzthiazide) daily for five days developed a maximal increase in the rate of sodium excretion on the first day, and maintained this high rate until depletion of excessive body stores of sodium.

In congestive heart-failure patients, AQUATAG (benzthiazide) produced the same weight loss, during a 48-hour treatment period as did a maximally effective dose of hydrochlorothiazide.

**DOSAGE:** Diuresis, initially 50 to 200 mg.; maintenance 25 to 150 mg., daily. Hypertension 50 to 100 mg. initially, adjusted to 50 mg. t.i.d. or downward to minimal effective dosage level.

**WARNINGS:** Use with caution in the presence of renal disease as azotemia may be precipitated or increased. In patients with advanced hepatic disease, electrolyte imbalance may result in hepatic coma. Dosage of coadministered antihypertensive agents should be reduced by at least 50%. In cases of suspected electrolyte imbalance, serum electrolyte determinations should be performed and imbalance, if any, corrected. Stenosis or ulcer of small intestine have been reported with coated potassium formulas, and surgery has been required and deaths have occurred. Based on surveys of both United States and foreign physicians, incidence of these lesions is low and a causal relationship in man has not been definitely established. Until further experience has been obtained, the use of the drug in pregnant patients should be weighed against possible hazards to the fetus.

**CONTRAINDICATIONS:** AQUATAG (benzthiazide) is contraindicated in progressive renal disease or dysfunction including increasing oliguria and azotemia. Continued administration of this drug is contraindicated in patients who show no response to its diuretic or antihypertensive properties. Severe hepatic disease is a relative contraindication. (See "Warnings" above.)

**PRECAUTIONS AND SIDE EFFECTS:** Electrolyte imbalance with hypokalemia (digitalis toxicity may be precipitated), hyponatremia, hypochloremic alkalosis and hyponatremia may occur. Patients with cirrhosis should be observed for impending hepatic coma and hypokalemia. Other reactions may include blood dyscrasias, hyperuricemia and gout, nausea, jaundice, anorexia, vomiting, diarrhea, dizziness, paresthesia, photosensitivity and headache. Hepatic tetor, tremor, confusion and drowsiness are signs of impending pre coma and coma in patients with cirrhosis. Insulin requirements may be altered in diabetes. AQUATAG (benzthiazide) should be used with caution post-operatively as hypokalemia is not uncommon. Potassium supplementation may be advisable pre- and post-operatively. There have been occasional reports of thrombocytopenia, leukopenia, agranulocytosis, aplastic anemia and precipitation of acute pancreatitis or jaundice.

Before prescribing or administering, read the package insert or file card available on request.

Available as 25 or 50 mg scored tablets.

Request clinical samples and literature on your letterhead



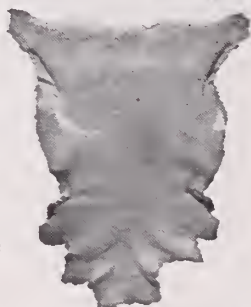
**S.J. TUTAG**

**& COMPANY**

Detroit, Michigan 48234

# New DURALAMB® Sheepskins 7 WAYS BETTER THAN OTHER BEDPADS

- 1 Absorbent
- 2 Truly Soft
- 3 Minimize Abrasions
- 4 Improve Circulation
- 5 Stay in Place
- 6 Resist Combustion
- 7 Allow air to circulate around the body



1 or 2 skins	\$15.75 ea.	6 to 9 skins	\$13.75 ea.
3 to 5 skins	\$14.75 ea.	10 or more	\$13.25 ea.

**For Best Results — Wash DURALAMB Sheepskins and Synthetic Bedpads**

— Manually or by machine  
— in cold or warm water with



## DIP 'n DRI

**The New Conditioned Detergent  
with BACTERIOSTATIC ACTION!**

Tests prove that DURALAMB Sheepskins, washed over 20 times in DIP 'n DRI, stay SOFT . . . the millions of tiny fibers still resilient and curled!

DIP 'N DRI makes laundering so easy and reliable! The bacteriostat remains on the wool or synthetic fibers after washing . . . keeps bedpads fresh and counters the build-up of bacteria.

Also ideal for blankets, elastic restraints, safety belts, heel and elbow protectors, etc.

1 lb. cans	\$1.40	Case of 12	\$14.40
3 lb. cont	\$3.15	25 lb. drums	\$19.00



**SUPERIOR SPRAY PRODUCTS**  
in economical 12 oz. Cans

**SKIN PROTECTOR** with Dow Corning Silicones and Hexachlorophene **\$1.64**



**TINCTURE OF BENZOIN**  
Minimizes tape and cast discomfort **\$1.73**

**GOLDEN SPRAY BANDAGE**  
with Neomycin. Sterile. Flexible. **\$1.79**

**SKIN FREEZE**  
with Dupont Freon® Propellant. **\$1.61**

**ROOM DEODORANT**  
with Metazine. Kills odors chemically **\$1.35**

**ADHESIVE TAPE REMOVER.**  
Removes tape painlessly, completely **\$1.35**

**All Cheaper By The Dozen!**

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## MURRAY MYERS CO.

550 East 11th Street  
Tulsa, Oklahoma 74120  
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## Tandearil® oxyphenbutazone

Tandearil in Painful Shoulder

**Therapeutic Effects:** Stiffness and pain may diminish within 2 days, and full mobility may be restored within a week. These effects are obtained with oxyphenbutazone alone or combined with physiotherapy or local hormonal injections. The drug is usually well tolerated and does not affect pituitary-adrenal function or immune response.

**Contraindications:** Edema; danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. The drug should not be given when the patient is senile or when other potent drugs are given concurrently.

**Warning:** If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy. Use with great caution in the first trimester of pregnancy.

**Precautions:** Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should be closely supervised and should be warned to report immediately fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools or other evidence of intestinal hemorrhage. Make regular blood counts. Discontinue the drug and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensives.

**Adverse Reactions:** The most common are nausea, edema and drug rash. The drug has been associated with peptic ulcer and may reactivate a latent peptic ulcer. Infrequently, agranulocytosis, or a generalized allergic reaction may occur and require withdrawal of medication. Stomatitis, salivary gland enlargement, vomiting, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported but cannot definitely be attributed to the drug. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

**Dosage in Painful Shoulder:** 600 mg. daily in divided doses for 2 to 3 days; 300 mg. daily thereafter. Usual duration of therapy: 2 to 7 days.

**Availability:** Tablets of 100 mg.

6562-VI(B)R

For complete details, please refer to full prescribing information.



Geigy Pharmaceuticals  
Division of Geigy Chemical Corporation  
Ardsley, New York

Geigy

Tandearil®  
oxyphenbutazone

helps painful shoulders  
move again



Please see ad-  
joining page for  
brief prescribing  
summary.

TA-5094PC

Sperling, I. L.  
Applied Therap. 6:117,  
1964

Rosenbaum, E. E., and  
Schwarz, G. R. North-  
west Med. 61:927, 1962

3 out of 4 painful shoulder patients  
responded well

84.2% of 127 patients

81% of 48 patients



# Why these 7 patients with **moderate to severe anxiety** may respond better to Mellaril

## 1. The agitated patient.

Anxiety—particularly that beyond the range of minor tranquilizers—frequently is expressed as gross motor restlessness, fidgetiness and purposeless movements, and may erupt into aggressive behavior. Mellaril is almost a specific for those patients whose anxiety follows such a pattern.







**The psychosomatic patient.**  
The family physician is rarely given the diagnostic luxury of a classic textbook "anxiety state." Most often he must probe for anxiety masked by a functional disorder—or which exacerbates a somatic problem. Double-blind evaluations have demonstrated that Mellaril can be a significant adjunct in the treatment of such patients.



**The patient under situational stress.**  
Mellaril helps the patient deal with stresses of everyday life. Nonhabituating, it can be given for extended periods of time. It does not "separate" the patient from practical problems and pressures, does not induce euphoria or a fuzziness which can compromise the ability to cope with realities. Rather, it helps the patient move more competently in his daily world by eliminating useless tension, by allowing him to conserve emotional resources and energies, and to direct them against the problems really worth worrying about.



**4. The menopausal patient.**  
The woman who sees change of life as the end of useful life requires support from both family and family physician. Whether the psychological impact of menopause is directly related to hormonal changes, or merely coincidental, is debatable, but estrogenic therapy is frequently inadequate. Mellaril is a useful aid for these patients and, alone, or in combination with reduced estrogen dosage, will help ease the menopausal misery.



**5. The previously hospitalized psychiatric patient.**  
Such a patient may still require the type of medication he has been accustomed to, but because he is no longer in a controlled setting the acceptable level of adverse reactions must be lower. In such circumstances Mellaril is perhaps the drug of choice.



**6. The agitated geriatric.**  
Tranquilizer therapy in the elderly patient always involves special (or at least accentuated) problems: the possibility of drug-induced ataxia, hypotension or depression, for example, assumes an additional significance. These reactions have rarely been observed in geriatric patients treated with Mellaril.



**7. The constantly returning patient.**  
The anxiety patient who has not responded to a minor tranquilizer is not very likely to benefit from your minor tranquilizer of second choice. A major tranquilizer, such as Mellaril, may be indicated in such patients.

**Contraindications:** Severely depressed or comatose states from any cause, and in association with or following MAO inhibitors; severe hypertensive or hypotensive heart disease.  
**Precautions:** Hypersensitivity reactions (e.g., leukopenia, agranulocytosis) and convulsive seizures are infrequent. Pigmentary retinopathy has been observed where doses in excess of those recommended were used for long periods of time. May potentiate central nervous system depressants, atropine, and phosphorus insecticides. Where complete mental alertness is required, administer the drug cautiously and increase dosage gradually. In addition, orthostatic hypotension (especially in female patients) has been observed. Epinephrine should be avoided in treatment of drug-induced hypotension.  
**Side Effects:** Pseudoparkinsonism and other extrapyramidal disorders are infrequent; drowsiness, especially in high doses early in treatment, may occur; nocturnal confusion, dryness of the mouth, nasal stuffiness, headache, peripheral edema, lactation, galactorrhea, and inhibition of ejaculation are noted on occasion; photosensitivity and other allergic skin reactions may occur but are extremely rare.  
*Before prescribing, see package insert for full product information.*

in moderate to severe anxiety, 25 mg. t.i.d.

**Mellaril<sup>®</sup>**  
(thioridazine)





A detailed illustration of a man's back and shoulder. A large, realistic tattoo of a tree with a thick trunk and many branches is visible on his back. The man's head is turned to the left, and his hand is near his face. The background shows a landscape with trees and a body of water.

at the site of infection  
(where it counts)...



## Ilosone® provides more antibacterial activity than any other oral erythromycin

**Acid stable, better absorbed ... Ilosone produces faster, higher, more prolonged blood levels, even in the presence of food<sup>1-3</sup>**

Because it is the most active form of oral erythromycin, Ilosone can help assure consistently greater antibacterial activity at the site of infection. Ilosone produces peak antibacterial blood levels two to four times those of other erythromycin preparations.<sup>1,2</sup> Not only are these levels attained earlier, but they are maintained for much longer periods. Even the presence of food does not seem to affect the activity of Ilosone.<sup>1,3</sup>

In the treatment of patients with bacterial infections susceptible to erythromycin, Ilosone has compiled an excellent therapeutic record. Since it exerts its greatest activity against gram-positive organisms, it is particularly useful in common respiratory and soft-tissue bacterial infections. Ilosone kills—not merely inhibits—streptococci, pneumococci, and more strains of

staphylococci than any other macrolide antibiotic. This bactericidal action, coupled with the high antibacterial levels attained, makes Ilosone especially valuable in patients with low host resistance, such as infants, debilitated individuals, and diabetics.

Ilosone has shown no cross-resistance with penicillin and may be effective against organisms that have become resistant to that agent. Despite its high antibacterial activity, Ilosone has demonstrated a low incidence of side reactions. Blood dyscrasias, ototoxicity, and tooth staining have not been observed. Infrequent cases of drug idiosyncrasy, manifested by a cholestatic jaundice, have occurred, but there have been no known definite residual effects.

**Ilosone®**  
Erythromycin Estolate

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*(See next page for prescribing information.)*

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**Description:** Ilosone is the most active form of oral erythromycin that has been developed. Because it is stable in acid, well absorbed, and excreted in lesser amounts in the bile, it provides faster, higher, and longer-lasting levels of antibacterial activity (ABA) in the serum, even when taken with food, than do comparable doses of erythromycin.

**Indications:** Ilosone is indicated in infections caused by microorganisms sensitive to its action (especially staphylococci, hemolytic streptococci, and pneumococci). The drug is therefore useful in a high proportion of bacterial diseases encountered in clinical practice and particularly in the treatment of bacterial infections of the upper and lower respiratory tract and soft tissues.

In the treatment of acute bacterial pharyngitis and tonsillitis, this antibiotic has promptly eradicated the bacteria (streptococci) and has produced a parallel prompt clinical improvement. There have been no group A beta-hemolytic streptococci resistant to this preparation. In beta-hemolytic streptococcus infections, treatment should be maintained for ten days to prevent the development of rheumatic fever or glomerulonephritis.

Erythromycin estolate has proved to be very effective in pneumococcus pneumonia and in acute bronchitis with pneumococci on culture. Bronchopneumonia and otitis media in children have responded well to its use.

The antibiotic has been used very successfully in staphylococcus infections. Good therapeutic results have been obtained in soft-tissue infections, abscesses, cellulitis, carbuncles, wound infections, and furunculosis.

In serious staphylococcus infections, erythromycin preparations should be used only in combination therapy with other antimicrobial agents. As is the case with any treatment regimen used in these severe conditions, surgical procedures should be performed when indicated, and large dosages of the antimicrobial agents should be employed. In this fashion, Ilosone has been effective in staphylococcus pneumonia, osteomyelitis, septicemia, empyema, and meningitis.

Multiple 500-mg. doses of the drug have been useful in gonorrhea and syphilis. Since penicillin is the drug of choice for the treatment of syphilis and gonorrhea, erythromycin estolate should be employed for these infections only in patients with a history of penicillin allergy. Also, other infections due to susceptible bacteria in patients known to be hypersensitive to penicillin or other antibiotics may be considered for treatment with Ilosone. **Contraindications:** Ilosone is contraindicated in patients with a known history of sensitivity to this drug and in those with pre-existing liver disease or dysfunction.

**Side-Effects:** Data obtained from seven years' use of propionyl erythromycin ester and erythromycin estolate (Ilosone) indicate that hepatic dysfunction with or without clinical jaundice may occur during or following courses of therapy with the drug.

Changes in liver function tests in such cases have been indicative of intrahepatic cholestasis. The symptoms appear to be the result of a form of sensitization. The initial symptoms have appeared in some cases after a few days of treatment but generally have followed one or two weeks of continuous therapy or several courses of the drug. Symptoms reappear promptly if the drug is readministered to sensitive patients, usually within forty-eight hours. Eosinophilia was noted in peripheral blood counts. The findings readily subsided without apparent residual effects when treatment was discontinued. Recovery was delayed in one reported instance. The physician indicated in this case that either drug-induced jaundice or viral hepatitis may have been responsible for the findings.

In one clinical study involving ninety-three patients treated with the antibiotic, three cases of jaundice were observed and an additional eleven cases developed some changes in liver function tests. Three of the patients had abnormal liver function tests a second time on readministration of the drug.

Even though it is assumed that not all cases of jaundice have been reported, it seems clear that the number is small compared with the amount of drug that has been used. Reported cases have included persons in whom there had been administered other drugs known to be associated at times with hepatic side-effects and cases in which the presence of viral hepatitis or other disease may have been responsible for the findings. In some of the cases, associated gastro-intestinal symptoms simulated the colic of biliary tract disease. In other instances, clinical symptoms and results of liver function tests resembled findings in extrahepatic obstructive jaundice. It appears that the occurrence of jaundice after administration of Ilosone is infrequent, but further investigations are being made to estimate its incidence more accurately.

In those cases mentioned above in which jaundice appeared to

be definitely related to use of the drug, laboratory findings were characterized by increased direct-reacting bilirubin, elevated alkaline phosphatase levels, negative or weakly positive cephalin flocculation and thymol turbidity tests, elevated serum glutamic oxalacetic transaminase levels, peripheral eosinophilia, and normal cholecystograms.

Individual idiosyncrasy seems evident since jaundice has not been reported in other patients taking prolonged courses of the medication. Patients with chronic infection have been given 1 to 2 Gm. of the drug daily for periods of two to six months, and patients with rheumatic fever have taken prophylactic doses of 0.5 Gm. daily for two years without difficulty. In one group of 144 patients who received the drug daily for two years, no jaundice was noted. It was of interest that members of six of these patients' families, who were not taking the drug, had episodes of jaundice during the study period.

Transaminase and serum alkaline phosphatase levels were determined in a group of fifty-four adults and children who took 250 mg. of Ilosone daily for an average of sixteen months as rheumatic fever prophylaxis. The results were compared with those of a similar group of forty-four patients who received penicillin. There were no cases of jaundice in either group. Elevation of SGPT and serum alkaline phosphatase levels during the course of treatment was observed in one patient treated with Ilosone and in two patients treated with penicillin. Seven other patients in the group receiving Ilosone and four others in the penicillin group showed elevations in one of the tests at some time during administration of the drugs.

Very satisfactory therapeutic results, without toxicity, were reported in 102 pediatric patients who received short-term (ten-day) courses of Ilosone in the treatment of streptococcus infections. Results of liver function tests in these patients were comparable to those in a similar control group who had received penicillin.

Gastro-intestinal disturbances not associated with hepatic effects are observed in a small proportion of individuals as a result of a local stimulating effect of the medication on the alimentary tract; however, the normal intestinal gram-negative bacterial flora is not appreciably altered by erythromycin drugs.

Although allergic manifestations are uncommon with the use of erythromycin, there have been occasional reports of urticaria skin eruptions, and, on rare occasions, anaphylaxis.

**Administration and Dosage:** Ilosone is administered orally.

Ilosone Pulvules®

Ilosone Chewable Tablets

Ilosone Drops

Ilosone, 125, for Oral Suspension

For infants and for children under twenty-five pounds of body weight, the usual dosage is 5 mg. per pound every six hours; for children twenty-five to fifty pounds, 125 mg. every six hours. (Tablets Ilosone Chewable should be chewed or crushed and swallowed with water.)

For adults and for children over fifty pounds, the usual dosage of Ilosone is 250 mg. every six hours.

For severe infections, these dosages may be doubled.

When larger doses are indicated, parenteral erythromycin therapy should be considered.

In the treatment of syphilis, the recommended total dosage is 20 to 30 Gm. given in divided doses for a period of ten to fifteen days. Close follow-up of the patient is necessary since erythromycin drugs have not had adequate evaluation in all stages of syphilis. Examinations of spinal fluid are recommended as part of the follow-up therapy.

For gonorrhea, 500 mg. four times a day for four days are recommended! In the treatment of gonorrhea, patients with a suspected lesion of syphilis should have a dark-field examination before receiving antibiotics, and monthly serologic tests should be made for a period of three months.

**How Supplied:** Pulvules Ilosone, Capsules, N.F., 125 and 250 mg. (equivalent to base), in bottles of 24 and 100.

Tablets Ilosone Chewable, N.F., 125 mg. (equivalent to base), in bottles of 50.

Ilosone Drops, 5 mg. (equivalent to base) per drop, in 10-cc. size packages, with dropper calibrated at 25 and 50 mg.

Ilosone, 125, for Oral Suspension, N.F., 125 mg. (equivalent to base) per 5-cc. teaspoonful, in 60 and 150-cc.-size packages

**References:** 1. Griffith, R. S., and Black, H. R.: *Am. J. M. Sc.*, 247:69, 1964

2. Griffith, R. S., and Black, H. R.: *Antibiotics & Chemother.*, 12:398, 1962

3. Hirsch, H. A., Pryles, C. V., and Finland, M.: *Am. J. M. Sc.*, 239:198, 1960.

Additional information available to physicians upon request.  
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1. Crunden, A. B., Jr., and Davis, W. A.: Am. J. Obst. & Gynec. 65:311 (Feb.) 1953.



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of the Oklahoma State Medical Association

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## Auxiliary Establishes Vietnamese Aid Project

The Woman's Auxiliary to the American Medical Association has "adopted" two young Vietnamese mothers who arrived in the U.S. this month for short-term, specialized medical training. They are Mrs. Tran thi Minh Hien and Mrs. Nguyen thi thu Nguyet, who are receiving their instruction through on-the-job training programs at Georgetown University School of Medicine, Washington, D.C.

The auxiliary will pay a part of the two women's living expenses during their three-month stay in the U.S. The Woman's Auxiliary to the District of Columbia Medical Society is acting as unofficial host.

Mrs. Hien, a pharmacist, is receiving training as a laboratory technician in physiology and pharmacology. Mrs. Nguyet, a nurse and administrative assistant, is being trained in visual aid techniques for use in teaching.

The two women, both the mothers of three-year-old daughters, were selected for the training by Prof. Tran Vy, chairman, Department of Physiology, Faculty of Medicine, University of Saigon, and Laurence Lilienfield, M.D., chairman, Department of Physiology, Georgetown University School of Medicine.

The AMA is conducting a medical education project in Vietnam under a contract with the Department of State's Agency for International Development.

Georgetown University, one of the first medical schools in the nation to take part in the project, has signed a sub-contract to train medical technicians to serve as teachers in Vietnam. Mesdames Hien and Nguyet were the first to be brought to the U.S. under the Georgetown program.

### *Stipend*

The USAID pays a small stipend to cover their minimum living expenses. The two women are almost solely dependent on the stipend due to restrictions on the amount of Vietnamese currency they could bring with them.

The auxiliary learned of this and decided to do what it could to make the students'

stay as pleasant and beneficial as possible.

"The auxiliary decided to supplement their living expenses," explained Mrs. Burton E. Kintner, Elkhart, Indiana, a member of the auxiliary's board of directors and chairman of its Philanthropy Committee. "It will give each of them \$25 a week, funds permitting."

"I feel they've made a sacrifice in order to help their own people. They've both left their homes and family," Mrs. Kintner said.

### *Convention*

Mrs. Kintner said the auxiliary would like to sponsor a trip for the two Vietnamese to the Auxiliary's 44th Annual Convention and AMA's 116th Annual Convention, which are being held concurrently in Atlantic City June 18th-22nd.

Mrs. Kintner said donations from state and county auxiliaries will be welcomed. They may be sent to auxiliary headquarters at the AMA, 535 North Dearborn, Chicago, Illinois 60610. Donations should be marked for the Vietnamese Student Aid Project. Checks should be made payable to the auxiliary.



Pittsburg County Medical Society celebrated Doctors' Day with a "Flapper Party" at the Plantation Club in Krebs. Pictured above enjoying the fun are: (left to right) Mrs. William Blanchard, C. E. Lively, M.D., Mrs. James D. Moore, Doctor Moore and Mrs. Ross Rumph. □



The Department of Health, Education and Welfare attributes rising medical costs to supply and demand, and unconvincingly denies that a recent study revealed any evidence that Medicare was a factor. According to federal figures, physicians' fees, which had been rising at about three per cent a year in 1960-65, went up 7.8 per cent in 1966—the biggest annual increase since 1927. Hospital daily charges, rising about six per cent a year between 1960 and 1965, went up 16.5 per cent in 1966—the largest annual increase in 18 years. The government report attributes hospital increases largely to rising wages (but does not mention that such occurred as a result of federal legislation). The report recommended a series of actions to slow down increases in costs and to promote efficiency, such as:

- Comprehensive community health care systems.
- Group practice should be encouraged.
- Broadening of private and public health insurance programs.
- Establishment of strong health planning agencies by states.
- Cost-reducing methods of reorganizing the delivery of health services.
- Training of "physicians assistants" by the federal government.
- Innovations in health professions' education and training to promote efficiency in medical practice (financed by federal government).
- Intensive federal examination of drugs to assess effectiveness.

*Comment:* How much more federal planning in the interest of efficiency can the nation afford?

Thomas M. Tierney, Executive Director of Colorado Blue Cross, now heads the OASI Bureau of Health Insurance. The new Medicare leader replaces Arthur E. Hess who is

being promoted to deputy commissioner of Social Security.

Alaska's governor has ordered an investigation of malpractice insurance rates. Termining the escalated insurance premiums as "injurious to the public interest," the governor plans to report to the legislature after the study is completed. He has intimated that the state may need to provide its own program to reduce the costs of insurance.

**New Ethical Ruling on Drugs and Devices.** The AMA Judicial Council has ruled it is unethical for a physician to be influenced in the prescribing of drugs or devices by his direct or indirect financial interest in a pharmaceutical firm or other supplier. Moreover, it is unethical to own stock or have a direct or indirect financial interest in a firm that uses its relationship with physician-stockholders as a means of inducing or influencing them to prescribe the firm's products.

The Oklahoma Department of Public Welfare has received \$1,059,887,814.18 in sales tax between 1933 and 1966, according to a report by the Oklahoma Public Expenditures Council. At the present time, the department receives 97 per cent of all sales tax collected, which in 1965-66 amounted to over \$70 million.

## MEETINGS

**June 3rd-4th**—National Workshop, American Medical Political Action Committee, Washington, D.C.

**June 18th-22nd**—AMA Annual Meeting, Atlantic City

**July 14th-15th**—Rocky Mountain Cancer Conference, Denver



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Before prescribing, please consult complete product information, a summary of which follows:

**Contraindications:** Patients with known hypersensitivity to the drug.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of child-bearing age requires that its potential benefits be weighed against its possible hazards.

**Precautions:** In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver-function tests advisable during protracted therapy.

**Usual Daily Dosage:** Individualize for maximum beneficial effects. *Oral*—Adults: Mild and moderate anxiety and tension, 5 or 10 mg t.i.d. or q.i.d.; severe states, 20 or 25 mg t.i.d. or q.i.d. Geriatric patients: 5 mg b.i.d. to q.i.d. (See Precautions.)

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The  
**JOURNAL**  
*of the Oklahoma State Medical Association*

BALCONY.

Volume 60  
Number 6  
June 1967

**SPECIAL ISSUE**

**Guide to Disability Evaluation**

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has an atropine-like action which should be considered when prescribing diphenhydramine hydrochloride. **ADVERSE REACTIONS:** Side effects are generally mild and may affect the nervous, gastrointestinal, and cardiovascular systems. Drowsiness, dizziness, dryness of the mouth, nausea, nervousness, palpitation, blurring of vision, vertigo, headache, muscular aching, thickening of bronchial secretions, restlessness, and insomnia have been reported. Allergic reactions may occur.

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No untoward side effects have been reported to date.

*Literature on indications and dosage available on request.*

### References:

- (1) Siver, R. H.: CMD, 21:109, September 1954. (2) Frykman, H. H.: Minn. Med., 38:19-27, January 1955. (3) McGivney, J.: Tex. State Jour. Med., 51:16-18, January 1955. (4) Quehl, T. M.: Jour. of Florida Acad. Gen. Prac., 15:15-16, October 1965. (5) Weekes, D. J.: N.Y. State Jour. Med., 58:2672-2673, August 1958. (6) Weekes, D. J.: EENT Digest, 25:47-59, December 1963. (7) Abbott, P. L.: Jour. Oral Surg., Anes., & Hosp. Dental Serv., 310-312, July 1961. (8) Rapoport, L. and Levine, W. I.: Oral Surg., Oral Med. & Oral Path., 20:591-593, November 1965.

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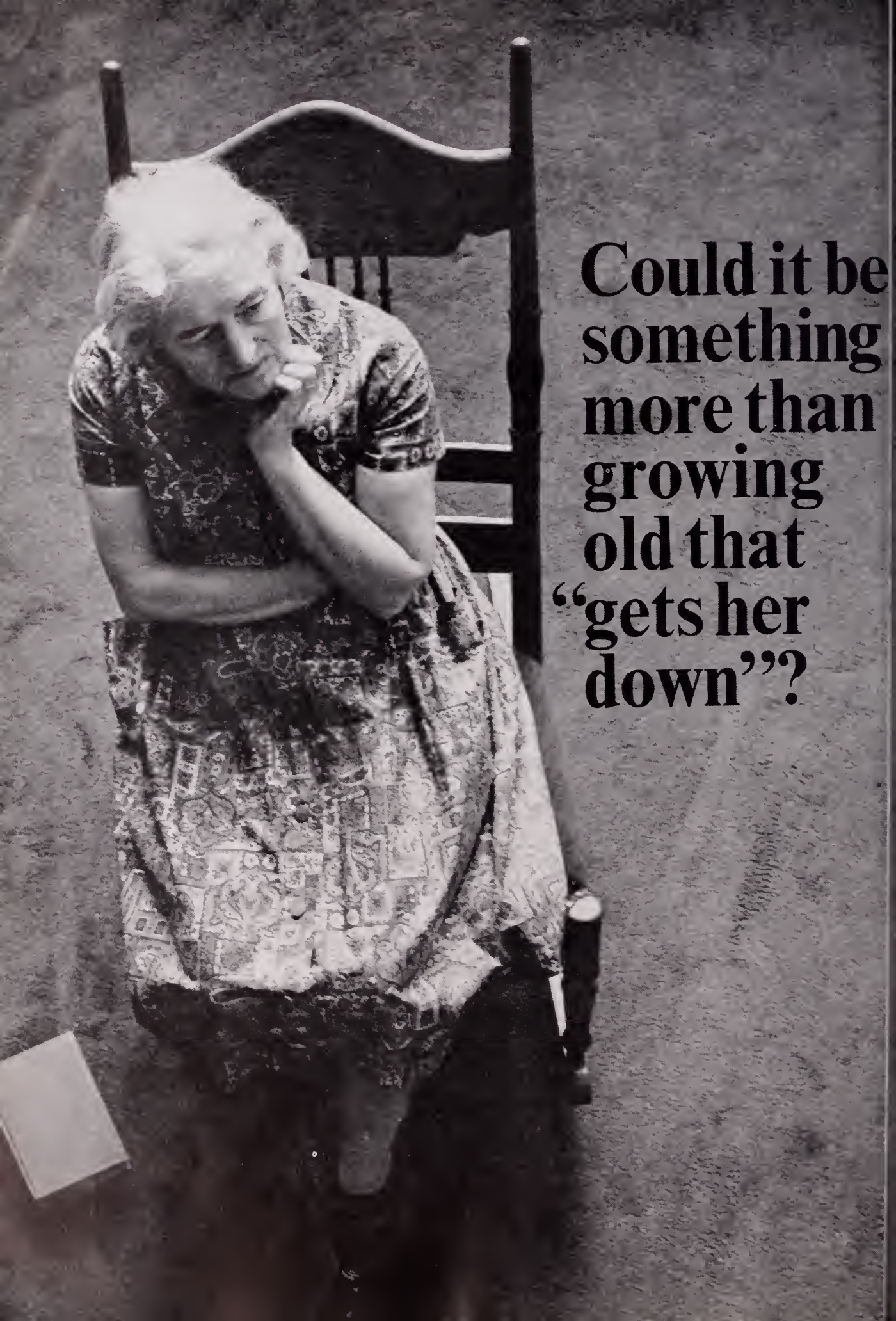
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\*Multiple of adult Minimum Daily Requirement supplied.

†The need for these substances in human nutrition has not been established.

**Indications:** 1. Functional fatigue such as that often associated with: a depressing experience or stressful time of life; advancing years; convalescence; limited activity or confinement. 2. Poor appetite and vitamin-mineral deficiency as they occur in: patients having faulty eating habits; geriatric patients who are losing interest in food; patients convalescing from debilitating illness or surgery.

**Contraindications:** As with other drugs with CNS stimulating action, Alertonic is contraindicated in hyperactive, agitated or severely anxious patients and in chorea or obsessive compulsive states.

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**Dosage:** Adults, 1 tablespoonful; children (over 15 years old), 1 to 2 teaspoonfuls; children (4 to 15 years old), 1 teaspoonful. To be taken three times daily 30 minutes before meals.

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# ...and the complications of staph.

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**PRESCRIBING INFORMATION:** For complete information, consult Official Package Circular. **Indications:** Infections caused by Staphylococci, particularly those due to penicillin G-resistant Staphylococci. **Contraindications:** A history of severe allergic reactions to penicillin. **Precautions:** Typical penicillin-allergic reactions may occur. Safety for use in pregnancy and premature infants is not established. Because of limited experience, use cautiously and evaluate organ system function frequently in neonates. Mycotic or bacterial superinfections may occur. Assess renal, hematopoietic and hepatic function intermittently during long-term therapy. **Adverse Reactions:** Skin rashes, pruritus, urticaria, eosinophilia, nausea, vomiting, diarrhea, fever and occasional anaphylaxis. Rare cases of reversible hepatocellular dysfunction have occurred. Moderate SGOT elevations have been noted. Thrombophlebitis has occurred occasionally during intravenous therapy and leukopenia was noted in two cases. **Usual Oral Dosage:** Adults: 500 mg. q. 4 or q. 6 h. Children: 50 mg./Kg./day. **Usual Parenteral Dosage:** Adults: 250-500 mg. q. 4 or q. 6 h. Children: 50 mg./Kg./day. Treat beta-hemolytic streptococcal infections for at least 10 days. Give oral drug 1 to 2 hours before meals. **Supplied:** Capsules—250 and 500 mg. in bottles of 48. Injectable—250 mg., 500 mg., and 1 Gm. dry filled vial for I.M./I.V. use. For Oral Solution—100 ml. bottle, 250 mg./5 ml. when reconstituted.

**A.H.F.S. CATEGORY 8:12.16**

**References:** 1. Abstracted from *Antibiotic Sensitivity of Staphylococci Studied from November 1962 through August 1963*, reported by Griffith, L.J., Staphylococcus Reference Laboratory, V.A. Hospital, Batavia, N.Y. 2. Data on file, Bristol Laboratories.

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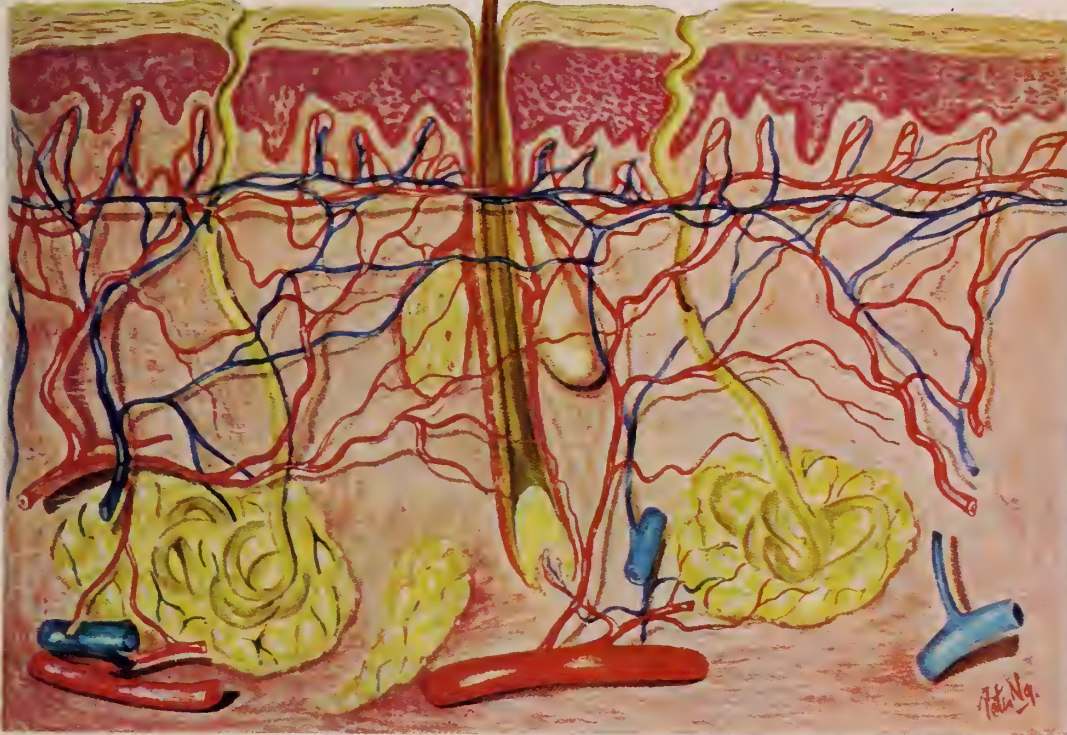
The following is a brief precautionary statement. Before prescribing, the physician should be familiar with the complete prescribing information in SK&F literature or *PDR*. **Contraindications:** Comatose states or the presence of large amounts of C.N.S. depressants. **Precautions:** Potentiation of C.N.S. depressants may occur (reduce dosage of C.N.S. depressants when used concomitantly). Antiemetic effect may mask other conditions. Possibility of drowsiness should be borne in mind for patients who drive cars, etc. In pregnancy, use only when necessary to the welfare of the patient. **Side Effects:** Occasionally transitory drowsiness; dry mouth; nasal congestion; constipation; amenorrhea; mild fever; hypotensive effects, sometimes severe with

I.M. administration; epinephrine effects may be reversed; dermatological reactions; parkinsonism-like symptoms on high dosage (in rare instances, may persist); weight gain; miosis; lactation and moderate breast engorgement (in females on high dosages); and less frequently cholestatic jaundice. Side effects occurring rarely include: mydriasis; agranulocytosis; skin pigmentation, lenticular and corneal deposits (after prolonged substantial dosages).

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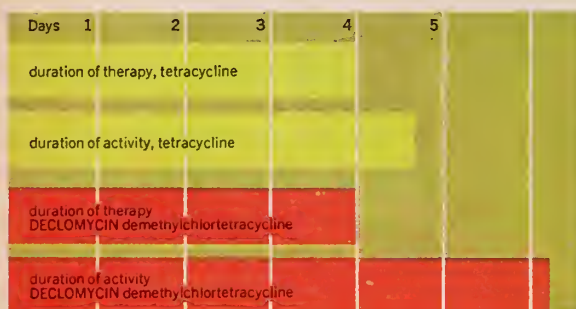


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*Precautions and Side Effects*—Overgrowth of nonsusceptible organisms may occur. Constant observation is essen-

tial. If new infections appear, appropriate measures should be taken. Use of demethylchlortetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect occurs mostly during long-term use but has also been observed in short treatment courses. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment. Side reactions include glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis and dermatitis. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Anaphylactoid reactions have been reported.

*Average Adult Daily Dosage:* 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products.

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Dextro-amphetamine sulfate: Excessive use by unstable individuals may result in psychological dependence.

Meprobamate: Careful supervision of dose and amounts prescribed is advised, especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence on the drug. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of preexisting symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dosage and avoid operation of motor vehicles, machinery or other activity requiring alertness. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies. **Side Effects:** Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness.

Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.

Meprobamate: Drowsiness may occur and can be associated with ataxia; the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncrotic reactions: maculopapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.



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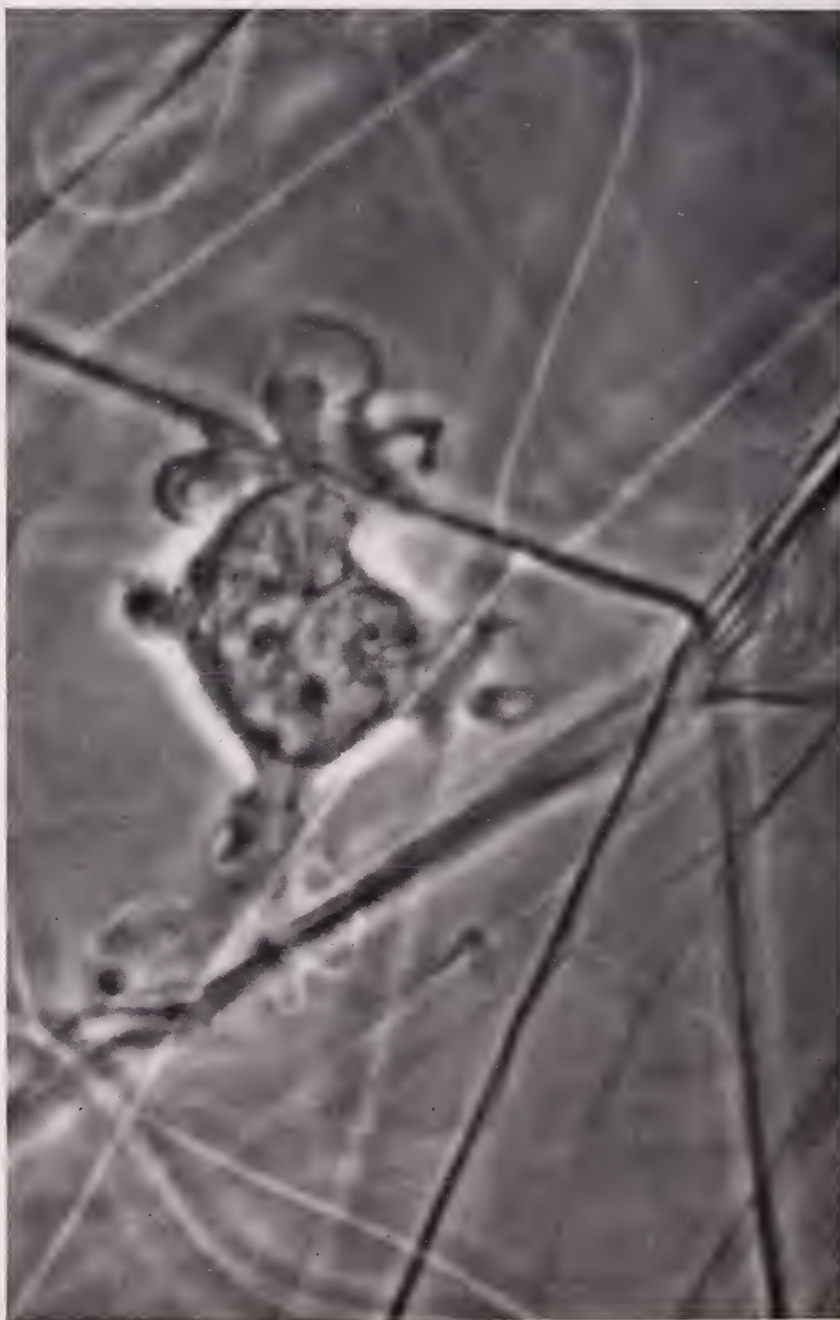


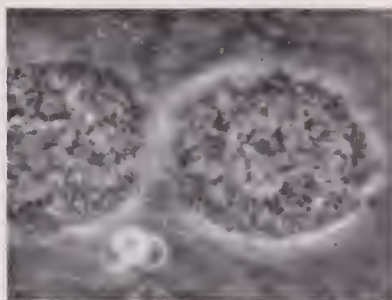
# INFLAMMATION: A cellular fight for life

*A SYNTEX REPORT based on recently developed hypotheses about topical corticosteroids, including the cellular theories of inflammation by Thomas F. Dougherty, Ph.D., University of Utah.*

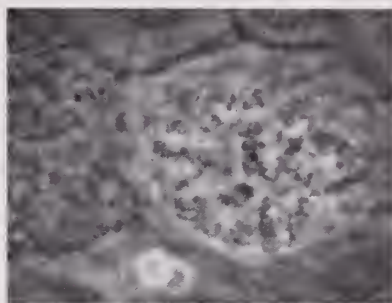
You are looking at a fibroblast fighting for life. This cell—one of the most common found in connective tissue—has literally been poisoned by cytotoxins released from other cells that have ruptured. Soon, if the abnormal activity of this fibroblast does not cease, it, too, will rupture and die—one more casualty in the inflammatory wave of destruction precipitated by injury.

Until a short time ago no one had ever witnessed such a scene at the cellular level. Now, through advanced cinemicrographic techniques, it is possible to view and photograph the inflammatory process as produced experimentally in living animal tissue. This method permits new insight into the mechanism of inflammation and the role of corticosteroids in therapeutic management. Equally important, these techniques shed new light on factors that may make one corticosteroid more effective than another—factors that can be correlated with other chemical, biologic, and clinical parameters.





*Phase-contrast microscopy showing mast cell before injury.*



*Mast cell (after injury) has broken up and released cytotoxins.*

## Visual evidence of how corticosteroids influence the inflammatory reaction

Working with phase-contrast cinematography on living animal tissue, Doctors Thomas F. Dougherty and David Berliner of the University of Utah College of Medicine have actually filmed cellular events that occur during the inflammatory reaction. This remarkable study\* and additional work by these investigators, as well as by others, have established a new theoretical biologic basis for the antiinflammatory effect of the corticosteroids. (It must be noted that other theories, such as the lysosome or so-called "suicide bag" theory, have been postulated, although it is quite likely that there are more similarities than differences among the various theoretical models.)

### The inflammatory wave of destruction

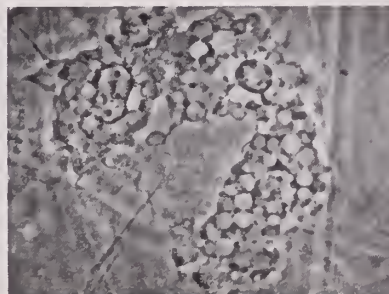
In this investigation an injurious injection of gelatin is used to set off an inflammatory reaction in living mouse tissue. What follows is a wave of destructive cellular activity that comprises the inflammatory response to injury. Mast cells (which contain heparin, serotonin and histamine) take up water, swell and rupture, releasing their contents, which are toxic outside the mast cell wall. These toxins, in turn, cause disintegration of other cells (such as fibroblasts) and the release of additional toxic material. Capillaries, too, take up water and leak unformed blood elements, causing edema. And polymorphonuclears, lymphocytes and perithelial cells invade the inflamed site. As a result of all these changes, the cellular environment reaches a state of turmoil.

### How corticosteroids change the picture

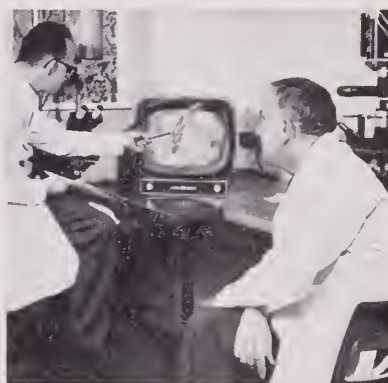
Corticosteroids appear to virtually stop the abnormal cellular activity that constitutes the inflammatory reaction. This permits the body's natural resources to clear up the inflamed area and repair the damaged tissue. This interpretation is supported by the fact that when the injurious gelatin solution is injected simultaneously with a corticosteroid — Synalar (fluocinolone acetonide) — the inflammatory pattern simply does not develop.



*Fibroblast in high state of activity, much distorted.*



*Mast cells showing effects of corticosteroid action: cells are normal in size, shape and activity.*



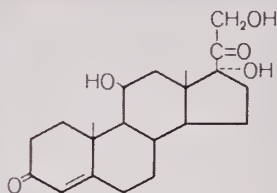
In summarizing his study Doctor Dougherty states: "...we also feel this work may explain why one corticosteroid helps a patient more rapidly and effectively than another. If it does, it is because one corticosteroid is the fastest, most effective inhibitor of the series of inflammatory events at the tissue level."

\*A New View of Corticosteroid Action in Inflammatory Dermatoses, a film based on this study, is now available from your Syntex representative.

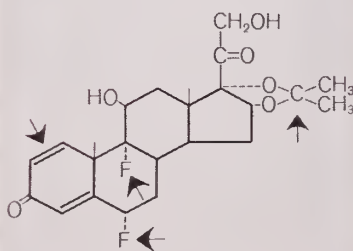


# How advances in chemical design have achieved greater steroid potency

The chemical modification of corticosteroid molecules from the advent of hydrocortisone to the development of Synalar (fluocinolone acetonide) is a prime example of how biochemists can "design" to increase therapeutic activity and minimize undesirable side actions. Below, for example, we see the important changes that were made in reference to the hydrocortisone molecule to produce fluocinolone acetonide, one of the most active of all topical corticosteroids. As a result, a 0.01% preparation of Synalar (fluocinolone acetonide) has been reported to do the work of a 1% hydrocortisone product containing 100 times more corticosteroid. And it can often do it more effectively.



**Hydrocortisone**



**Fluocinolone Acetonide (Synalar)**

- ☐ a double bond between carbons 1 and 2
- ☐ fluorine substitutions at both the 6- $\alpha$  and the 9- $\alpha$  positions
- ☐ the addition of the acetonide at the 16- $\alpha$ , 17- $\alpha$  positions, thus providing one of the most potent topical corticosteroids available.

## How bioassay tests are used to "predict" therapeutic potential

Biologic assays are another tool used by researchers to help establish the relative activity of corticosteroids. To date no single method of assaying corticosteroid activity has emerged as the ideal "yardstick" for predicting therapeutic potential. Taken together, however, these methods have proved useful. When such tests are run on various corticosteroids, a definite order of corticosteroid activity becomes evident. Compounds with the highest order of activity may be expected to merit clinical trial to establish their high therapeutic potential. When assayed by these methods, fluocinolone acetonide (Synalar) emerges as one of the most active topical corticosteroids, milligram for milligram, available for clinical application today.



**THE THYMUS INVOLUTION ASSAY<sup>1-4</sup>** is run on adrenalectomized rats. The sizes of the glands are measured, and the degree of involution caused by the steroid is determined as an indication of its potency. In the above photo, the comparative involution of thymus glands achieved with hydrocortisone and Synalar (fluocinolone acetonide) is shown. Untreated controls (A) show normal size. Group B— injected with 1, 2 and 4 mg. of hydrocortisone— show progressively smaller thymuses as does Group C— injected with fluocinolone acetonide— but with only 1/500th the dose of hydrocortisone.



**THE ANTIGRANULOMA ASSAY<sup>1-4</sup>** also utilizes adrenalectomized rats. Granulomas are induced by subcutaneous implantation of cotton pellets on either side of the thorax. The degree of granuloma inhibition achieved by a steroid reflects its potency. The above photo shows the inhibition of granuloma formation achieved with hydrocortisone and Synalar (fluocinolone acetonide). Untreated controls (A) show large, red granulomas adhering to the pellets. Group B, receiving hydrocortisone and Group C, receiving fluocinolone acetonide, show little, if any, granuloma formation. Fluocinolone acetonide produced the same effect as hydrocortisone with only 1/500th the dose. This assay, as well as the thymus involution assay, measures systemic rather than topical corticosteroid activity. Nevertheless, results by these methods correlate well with other assays and with the milligram potencies of topical steroids in current clinical use.



# Worldwide clinical experience confirms the predictable therapeutic potential of Synalar

It is particularly gratifying that the promise of the advanced chemical design and high order of bioassay activity of Synalar (fluocinolone acetate) has been confirmed by widespread therapeutic application. Indeed, the impressive clinical response rate of Synalar has been documented in no fewer than 232 papers from 22 countries.

## PRESCRIBING INFORMATION

**For initiation of therapy:** Cream 0.025%, 5 and 15 Gm. tubes, 425 Gm. jars; **for emollient effect:** Ointment 0.025%, 15 Gm. tubes; **for maintenance therapy:** Cream 0.01%, 15 and 45 Gm. tubes, 120 Gm. jars; **for intertriginous or hairy sites:** Solution 0.01%, 20 cc. and 60 cc. plastic squeeze bottles; **for infected inflammatory dermatoses:** Neo-Synalar® Cream (0.025% fluocinolone acetate, neomycin sulfate, equivalent to 0.35% neomycin base), 5 and 15 Gm. tubes.

**CONTRAINDICATIONS:** Tuberculous, fungal, and most viral lesions of the skin, (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of the components. **PRECAUTIONS:** Synalar preparations are virtually nonsensitizing and nonirritating. However, the solution may produce burning or stinging when applied to denuded or fissured areas. In some patients with dry lesions, the solution may increase dryness, scaling or itching. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for pro-

## Representative Clinical Results with Synalar\*

### Efficacy Documented in over 4,000 Patients

Condition	Number of Publications	Number of Patients	Significant Improvement†
Contact Dermatitis	27	750	713
Eczematous Dermatitis	21	472	409
Seborrheic Dermatitis	18	442	426
Atopic Dermatitis	24	460	426
Psoriasis	36	1,699	1,510
Neurodermatitis	18	351	324
Total	144	4,174	3,808

\*Complete bibliography on request.

†Expressed by the authors as excellent, very good, good, complete remission of inflammation, etc.

longed periods of time. Prolonged use of any antibiotic may result in overgrowth of nonsusceptible organisms; if this occurs, appropriate therapy should be instituted. When severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. **SIDE EFFECTS:** Side effects are not ordinarily encountered with topically applied corticosteroids. As with all drugs, however, a few patients may react unfavorably to Synalar under certain conditions. The neomycin in Neo-Synalar Cream rarely produces allergic reactions.

**REFERENCES:** 1. Lerner, L. J., Bianchi, A., Turkheimer, A. R., Singer, F. M., and Borman, A.: Anti-inflammatory steroids: potency, duration and modification of activities. *Ann NY Acad Sci* 116:1071 (Aug. 27) 1964. 2. Idem: Comparison of anti-granuloma, thymolytic and glucocorticoid activities of anti-inflammatory steroids. *Proc Soc Exp Biol Med* 116:385 (June) 1964. 3. Ringler, A.: Activities of adrenocorticosteroids in experimental animals and man, in Dorfman, R. I.: *Methods of hormone research*, New York, Academic Press, 1964, vol. III, pp. 234-280. 4. Gubersky, V. R.: To be published.

fluocinolone acetate — an original steroid from  
**SYNTEX**  
LABORATORIES INC., PALO ALTO, CALIF.

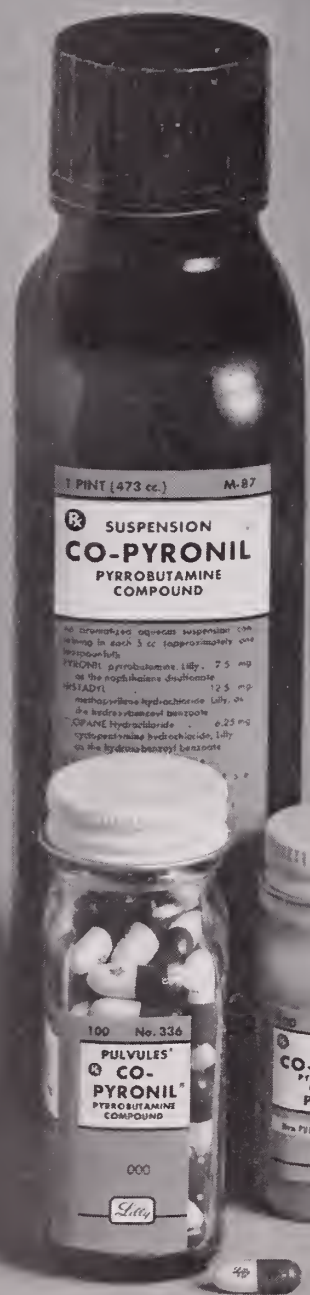
For inflammatory  
dermatoses...  
by any measure  
a topical corticosteroid  
of choice

# Synalar® (fluocinolone acetate)

Milligram for milligram  
one of the most active topical  
corticosteroids available

Rapid and predictable  
in antiinflammatory and  
antipruritic activity

Results often comparable to  
those of systemic corticosteroids  
with fewer hazards



for  
quick relief  
that lasts  
and lasts

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## On Complacency

**"FAILURE MAKES** one inventive, creates a free flow of associations, brings idea after idea, whereas once success is there a certain narrowmindedness or thick-headedness sets in so that one always keeps coming back to what has already been established and can make no new combinations."

Thus wrote Sigmund Freud.

His observation applies to all professions but it is particularly true in medical practice where no patient ever has more than one fatal illness and among those who recover it may be a question sometimes whether the treatment or the good Lord worked the miracle. In any case, doctors must strive to maintain an open and cultivated mind despite the sedation from countless successes during the course of a long practice. It is never easy to abandon an old mode of treatment that has seemed to work in a variety of situations and, it is even harder to break out of the old grind to attend scientific meetings when a well earned session with some golf clubs or a fishing pole seem more appropriate.

All work and no play make for bad medicine but it is equally true that today's diseases cannot be treated with yesterday's knowledge.—*C. B. Dawson, M.D.*

## Aspirin Poisoning

**ACCIDENTS** are still the leading cause of deaths among children aged one through 14 in the United States.

Aspirin causes more accidental deaths in young children than any other drug. In a recent issue of *Clinical Pediatrics* it was pointed out that "in the pre-school child more aspirin deaths are caused by faulty therapeutics than by accidents." This information was re-emphasized in a study reported in the *British Medical Journal* by Craig, Ferguson and Syme.

The mortality rate from aspirin poisoning is highest in children under two years of age because they have a greater susceptibility to salicylate poisoning.

Salicylate poisoning as a result of faulty therapeutics usually results from improper administration of aspirin by a parent. Unfortunately this is often because of improper advice from a physician. I once saw a baby nine months of age, who had been given three ten-grain aspirin suppositories during a period of 24 hours on the advice of the family physician. Craig suggests that most therapeutic deaths escape diagnosis and are not indicated in accidental poisoning returns, and that therefore the problem is much greater than national mortality figures indicate.

It is important that salicylate poisoning be recognized early if these deaths are to be prevented. Hyperpnea is the sign that should make one suspicious that the patient has aspirin poisoning. The respirations are rapid, deep and of the air hunger type. These patients are often thought to have pneumonia.

The diagnosis can be made by testing the urine, which has been boiled, with ferric chloride. A positive test for salicylate is indicated by a deep purple color.

The prevention of therapeutic aspirin poisoning can best be done by withholding aspirin from infants and toddlers. If prescribing aspirin is felt to be necessary it is important to remember that the proper dosage is one grain (60 mg.) per year of age, five times per day. Adequate fluid intake should be insured since salicylates are excreted in the urine. □

### References

Editorial: *Clinical Pediatrics* 6: 198. 1967.

*Emil F. Stratton, M.D.*

## The Behavior of Neoplasms

**COFFEE BEAN TREES** grow in Brazil sufficient to furnish 60 per cent of the coffee consumed in the United States. Cactus plants prefer desert areas. John Carson implied that the acacia tree has preference in areas in Africa, as well as having an interesting



individual personality. Tall corn flourishes in Iowa and neighboring geographical areas.

Tumors, or more specifically neoplasms, have remarkable known characteristic behavior patterns, which if well known, are of tremendous value in the diagnosis, treatment and care of such cases.

Doctor Bloodgood examined a group of bone tumor roentgenogram representing two cases. The display of films showed advanced and innumerable osteolytic lesions of the vertebrae of the ribs and the skull, remarkably similar in nearly all particulars. After about one minute he said accurately, "This is multiple myeloma and the other is neuroblastoma." Behavior as to age was his clue. Neuroblastoma does not occur in older people and multiple myeloma does not occur in children. Of course the age in these cases was obvious from the general appearance of the bones.

Osteogenic sarcoma, not to include sarcomata arising from long-standing osteomata or condromata occurring at various anatomical areas, is an entity. This tumor is osteolytic or osteoplastic at its origin. The metaphysis of the femur at the knee is by far the most common site and the proximal tibia and proximal humerus next in frequency of incidence. They occur 95 per cent or more between the ages of 14 and 20 and 75 to 80 per cent in the male. Metastases occur to the lungs in six to eight months, regardless of amputation and very rarely is there involvement of regional lymph nodes or contiguous structures. It is noteworthy that in areas of exposure to radium over a period of time, the incidence is definitely higher. A five per cent cure is the best reported. Thirteen cases at our Childrens Hospital over a ten year period all died.

Why does highly malignant Ewing's sarcoma (Ewing himself preferred the name endothelioma of bone) prefer the shaft of the long bone while it is not particular about age or sex? It occasionally attacks irregular bones and becomes extremely evasive as to diagnosis at times. This tumor is radio-sensitive and the osteogenic sarcoma is very radioresistant.

Author Walter S. Ross, in the *March Reader's Digest*, reporting statistics of Doc-

tor Harold W. K. Dargean of Memorial Hospital, New York City, and a tumor registry board of five other hospitals, lists cancer as the number one killer of children between the ages of one and 14 years. Retinoblastoma of the eye occurs under five years of age and in successive members of a family. Its incidence is somewhat disputed, but the occurrence is far greater than previously believed and this probably because of the discovery by meticulous routine examination of intraorbital structures from birth and thereafter.

A baby with a large tumorous abdomen, symmetrical or semisymmetrical, is invariably adenosarcoma or Wilm's tumor. The incidence is high.

Leukemia is fatal and variable, but a common disease in children and rarely chronic.

Brain tumors are not uncommon.

Neuroblastoma of adrenal is more common in children than adults.

A 45-year-old white male at the University Hospital had ascites of one year's duration. Examinations were made and it was considered to be a particular form of tuberculosis. A trochar was inserted and fluid aspirated. The fluid was thin, except that it contained lumps of mucilaginous material large enough to obstruct the trochar. Microscopic examination of the embedded material showed an occasional eccentrically located, crescent-shaped nucleus and roughly nine-tenths of the cell was occupied by mucilaginous material. This represents an adenocarcinoma which arises from the mucous forming cells of the colon and occasionally the appendix. It grows slowly and when it penetrates the wall of the viscus, forms nodules on the peritoneum. These cells flake off and grow by transplantation on other areas of the peritoneum and, by reason of its irritation, causes ascites.

A separate type tumor arises within the peritoneal cavity by transplantation, namely the papillomatous carcinoma of the ovary. This neoplasm is especially elusive in that it is so soft in the beginning that it is not palpable by ordinary pelvic examination. These cells transplant themselves ordinarily to the opposite ovary and later over the entire peritoneal cavity, also causing ascites.

A 30-year-old man came to the emergency room after observing that his right hand

was wet with perspiration, his left hand dry and his right pupil dilated. He also had some soreness or discomfort in his upper right chest. A snap diagnosis of superior sulcus tumor, often spoken of as the upper medial portion of the lung, but probably more accurately of the chest wall, was made. The histology is that of a small round-cell sarcoma and, although there may be question as to its exact origin, neurogenic origin with extension from the nerve into the chest cavity is a feasible theory.

Neoplastic cells are, of course, benign as well as malignant. An example is the so-called fibroid, more properly leiomyoma, which arises from smooth muscle cells in various portions of the body, but commonly in the uterus. It is much more common in Negroes, often multiple, very rarely malignant and tends to be large. A lady in Jeffersonville, Indiana, had satisfactory surgery after having been host to a 135 pound leiomyoma for many years. After surgery her weight was 125 pounds.

The lipoma rarely becomes malignant, may become very large, tends to be multiple and subcutaneous. Histologically the cell of the lipoma is very difficult to distinguish from normal fat cells.

Benign osteoma is similar in respect that the osteocyte as you see it, is much like that of normal bone tissue. It is usually a problem to determine positively if a protrusion of bone is actually neoplastic or exostotic.

Neurofibromatosis (Von Recklinghausen's Disease) is multiple and distinctly unique in that it often occurs as a familial or hereditary disease. It does, in a small percentage of cases, advance to neurosarcomatosis, but in something like 75 per cent the patients live their lives out and die of a disease unrelated to the tumor and without great debilitation except in many cases moderate pain at the site of some of the tumors.

Astrocytomas and other tumors arising from the nerve cells of the brain are histologically and clinically recognized as highly malignant tumors. The cells are large, have hyperchromatic nuclei, great variation in size of the nuclei, almost no stroma and float in lakes of blood and necrotic material; histologically they are as metaplastic as tumors can appear. The logical assumption would

be for these tumors to float away in the blood stream and give distant metastases. Rarely do they give distant metastases, or even metastases by contiguity of tissue, except brain tissue. Something about tissues in other parts of the body are evidently not to their liking for the formation of metastases.

The tumors which arise from the meninges of the brain are equally interesting in that they do give metastases to the skull, causing osteolytic lesions. These too very infrequently give metastases, except to the bone of the skull.

Primary adenocarcinoma of the pancreas is ordinarily a very small tumor, so small that it may be overlooked by the surgeon and yet the metastatic tumors of the liver tend to be large and extremely numerous.

Primary cancer of the lung is extremely elusive, is said to occur much more frequently among males who are heavy cigarette smokers, may give metastasis to variable organs and is ordinarily advanced before it can be demonstrated by x-ray examination.

Various forms of epithelial tumors arising from many different parts of the human body tend to spread by direct extension through the lymphatics or by contiguity of tissue and occur wherever there is glandular epithelium or epidermoid epithelium.

Tumors of all types occurring within the viscera rarely give metastases to the spleen, even though it is histologically an oversized, very vascular lymph gland. Only leukemia, lymphosarcoma and Hodgkin's disease, or such tumors as arise from cells found within the spleen commonly give metastases to the spleen.

Many instances, in addition to these, could be recited. You realize I have mentioned those which have more or less distinctive, interesting and remarkable behavior.

This discourse has been presented in the hope that it may recall to your minds certain characteristics of this disease helpful in the diagnosis and management of neoplasia.

In summary, perhaps the following quotation by Hippocrates in 100 B.C. is apropos, "This or something like this is the truth about these matters."—*Hugh Jeter, M.D.* □

Presented before the Oklahoma City Academy of Medicine, April 3rd, 1967.





The success of our annual meeting in Tulsa last May was so gratifying that some analysis as to why it was successful is called for.

For years we have sought a formula which would insure a good attendance. In spite of hours and hours of work by our most able people, both doctors and executive staff, we had seen a progressive lack of interest in the state meeting. We had almost reached the point of considering abandoning the whole idea.

Then emerged the concept that if we had each specialty group set up the type program they wished, and by assisting them in every way to do this, we could attract all groups of doctors.

This idea was eagerly espoused by the officers of our specialty groups and the attendance in every section meeting this year showed that they had worked out speakers and topics of great interest. Further, in the general area, the selection of the general practice session speakers was left to the academy officers and they were offered the services of any guest speaker they pleased. This worked out well and the attendance proved it.

Also, the two sessions on general topics of interest to all doctors helped bring you to the meeting. Our "Malpractice University" filled the large meeting room, as did the Disability Evaluation Seminar with its moot court.

Many smaller ideas seemed to jell effectively in Tulsa. A good group of scientific exhibits, the "Stage Door Canteen" luncheons, OMPAC hospitality room, and a full quota of commercial exhibits all received your approval.

Lastly, the three nights of entertainment were well worth the amount of effort we all put into arranging them. The only criticism we heard came from those who did not realize how popular the Gaslight Party would be and hence did not order tickets in time!

Of course such a successful meeting does not just happen. It takes the combined effort of a lot of people to put on a good show. Hence, I cannot single out any person or group as deserving of the most praise. However, I must of necessity mention all of Don Blair's and Jack Spear's staff as well as the annual meeting committee, the chairmen of the scientific and social programs and the section chairmen. Finally, we must give a bow to the ladies for the fine auxiliary meeting they organized by themselves and for their help in planning and running the social events.

Our grand attendance total this year was 846 physicians and 613 others. Next year at the Skirvin, May 16th-19th, we expect an even larger number. Mark your calendar and plan to be with us all at that time.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "Maxwell P. Johnson". The signature is fluid and cursive, with a large, stylized initial 'M'.



## Disability Evaluation

JOHN A. BLASCHKE, M.D.

*Medical attention to the injured workman is carried out by most physicians. Disability evaluation of the injured workman is shunned by many physicians. This paper attempts to analyze this problem and encourages more physicians to become involved in disability evaluation.*

THIS ISSUE of *The Journal* is devoted to the proposition that most of us need to know more about disability evaluation generally and particularly workmen's compensation cases. It seems that all physicians are hesitant to approach this problem for the following reasons:

1. An innate hesitation to judge another human's capacity to work.
2. The lack of formal teaching in medical school and postgraduate courses on the subject of disability evaluation.
3. The failure or lack of any standard method of disability evaluation that is accepted by physicians throughout the country or by Workmen's Compensation Courts throughout the country.
4. A lack of interest in the subject.

The special papers on disability evaluation in this issue are an outgrowth of the Okla-

homa State Medical Association Occupational Medicine Committee. This committee under the chairmanship of Doctor Kieffer Davis of Bartlesville met with judges of the Oklahoma State Industrial Court in the spring of 1965 to discuss common problems in an effort to improve relationships and eliminate, if possible, many criticisms that physicians generally feel frustrated about in their relations with the State Industrial Court. It came as no surprise to learn from the judges of the Oklahoma Industrial Court that one of the primary problems leading to the dissatisfaction of many physicians was the fact that the physicians themselves just did not have the know how, common knowledge, or techniques for properly carrying out their responsibilities in disability evaluation. This special issue then is an effort to involve all physicians in Oklahoma in some degree of agreement as to what is meant by disability evaluation and to have some reasonable agreement on schedule, authority, and values.

### INTEREST OF PHYSICIANS

There seems to be an occasional tendency to treat Workmen's Compensation Cases as sort of "medical orphans" at times. Physicians share a mutual dislike of the responsibility for appearing in court as either a plaintiff's medical witness or defense medical witness and to be involved in litigation of this sort is certainly distasteful and time-consuming.

Additionally, there seems to be a lack of status in industrial medical work and many physicians show a distinct lack of enthusiasm for being involved or associated with any such activity.

The problem of malingering or exaggeration of symptoms by plaintiffs, secondary gain motivations by plaintiffs who are injured and on compensation pay, the "railroad spine" and other associated images arise rapidly in the minds of all of us when we first think of workmen's compensation injuries.

Physicians, however, have a strange ambivalence on this subject and there is much more interest in workmen's compensation cases on pay day.

A survey in Oklahoma ten years ago<sup>1</sup> pinpointed the degree to which many medical practitioners render care to industrially employed persons. This survey of 1,520 Oklahoma doctors revealed that 79.5 per cent of physicians carry on one or more types of industrial medical practice. Moreover, 75.3 per cent of the physicians who replied receive anywhere from five per cent to 100 per cent of their total gross income from this area of activity.

It was concluded from this survey that more physicians practice industrial medicine than a casual inquiry would indicate. It was further concluded that substantial income goes to most medical practitioners throughout the state of Oklahoma from their referring industrial organizations.

Assuming that the statistics gathered by Doctor Jean S. Felton some years ago are still generally true, it would seem that physicians have a real responsibility to become increasingly skillful and at least basically informed in regard to disability evaluation of the injured working man.

#### SOURCES OF INFORMATION

It is hoped that the information contained in this issue of the *Journal* will be brief, succinct, practical and pertinent to the point that it will serve as a guide to physicians in Oklahoma. Many other sources of information are available to those who are interested.

Probably the most important resource for physicians is the pamphlet, *Oklahoma Workmen's Compensation Laws and Rules of Procedure Before the State Industrial Commission*. This pamphlet which has been collected and published by the State Industrial Commission may be obtained by writing to the State Industrial Court of the State of Oklahoma. Currently a new edition of this pamphlet is being completed and will bring you up-to-date on current medically important facts as they apply to the injured working man in Oklahoma. All physicians who write any sort of reports and render any medical care to injured working men should have one of these pamphlets for quick reference. From this sort of information you can quickly learn or refresh your memory in regard to schedules for compensation for total disability ratings in certain injuries. Doctor James P. Bell's paper outlining this schedule of losses elaborates on this point very nicely. Additional information in the pamphlet will explain the loss of a hand as equivalent to 200 weeks disability, the loss of a leg 175 weeks, loss of an eye 100 weeks, etc. Even the definition of an amputation is outlined by statute in Oklahoma and this will help you in trying to resolve difficult problems.

Other items of interest include those of hernias where there is no permanent partial disability rating but by statute temporary total disability is set at 14 weeks. If you can learn to use this small pamphlet quickly and have it available in your office, it will solve many disability evaluation problems.

Other sources of information are readily available if you have special interest in this subject. The outstanding textbook in the field of disability evaluation throughout the country, *Disability Evaluation and Principles of Treatment of Compensable Injuries*,<sup>2</sup> is authored by a fellow Oklahoman, Doctor Earl D. McBride of Oklahoma City. The principles outlined in his book are accepted as reasonably authoritative in any court throughout the country and as a reputable resource in the field of disability evaluation.

The American Medical Association, long interested in the problem of disability evaluation, has issued a series of guides which have been edited and published by a special



committee. These guides are on the Extremities and Back,<sup>3</sup> Respiratory System,<sup>4</sup> Visual System,<sup>5</sup> The Central Nervous System,<sup>6</sup> The Digestive System,<sup>7</sup> Peripheral Spinal Nerves,<sup>8</sup> EENT and Related Structures,<sup>9</sup> and The Cardiovascular System.<sup>10</sup> You may obtain reprints of these guides which have been published during the past several years by writing to the *Journal* of the American Medical Association and giving the above references. They will be handy reference material in your office should you be called upon to render an opinion regarding injuries involving any of these special systems.

Additional source books of information include the American Academy of Orthopedic Surgeons Manual for Orthopedic Surgeons in Evaluating Permanent Physical Impairment and the U. S. Department of Labor publication, *Regulations Governing Administration of the Federal Employees' Compensation Act*.

It is obvious to anybody reflecting on this problem that there is a whole avalanche of information available to physicians regarding techniques and principles of disability evaluation. It is equally self-evident that with all this information there is either some confusion, lack of application, or dishonesty going on in order to explain all the difficulty involved with disability evaluation in the Industrial Court of the State of Oklahoma.

At the risk of being repetitive, the current issue of the *Journal* was undertaken in an effort to describe the practical customs, traditions, and averages that occur in disability evaluation in Oklahoma in the present era.

#### WHO SHOULD EVALUATE DISABILITY?

It seems obvious that the average physician is probably a poor judge of his own handiwork. It is also apparent that any physician who has given all his skill, effort, ingenuity, and strength in the repair and restoration of an injured part or an injured human being is going to be somewhat less than objective when it comes to seeing imperfections in the final result. Unfortunately, the system of disability evaluation in Oklahoma calls on the physician to do just that. This ambiguous situation gives rise to many of the problems that arise at the

moment of truth when the injured working man appears before judges of the Industrial Court. A physician is certainly going to be looking at that patient through rose-colored glasses and remembering all the effort and blood, sweat, and tears that went into the final result. Many physicians feel that an objective and impartial evaluation by a physician not involved at all in the case would perhaps render a better judgment under these circumstances.

Additional problems of disability evaluation occur when physicians are required to be objective in evaluating disability in members of the families of their very best clientele. There are all sorts of hidden innuendoes and pressures on a physician to alter his evaluation one way or another. Physicians would be less than human if they were not aware of these hidden pressures. If these normal and natural influences then are compounded by the pressures of aggressive plaintiff's attorneys, equally aggressive claims adjustors or unyielding defense attorneys, it becomes obvious that many times the physician is a pawn in this game.

Many physicians, recognizing the peculiar role thrust on them by the circumstances of the present Oklahoma Workmen's Compensation Law, simply try to evade responsibility entirely and refer their cases to somebody else for the task of disability evaluation. It seems important to me that each physician should try to become informed to some degree on the subject and at least render an opinion. It seems to me that the family physician, aware of all the circumstances in an injured working man's life, is in the best position to supply the ideal medical judgment and disability evaluation and should do so in forthright, aggressive, and unapologetic manner. This issue of *The Journal* is an effort to encourage all physicians to do more of their own disability

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## Disability / BLASCHKE

evaluation of the injured working man and to eliminate the criticism that physicians do not accept responsibilities or "do not understand the principles of disability evaluation."

The physician is responsible for making the decision on these four factors of disability claims:

1. Whether the disability is a direct result of the injury.

2. Whether treatment is necessary; methods of treatment that are advisable, extent of time necessary to relieve the condition and the probable outcome.

3. How long it will take for the injury to heal completely and whether recovery will be temporary or permanent.

4. An estimation of the per cent of permanent disability caused by the injury.

The average physician should be able to render an opinion on the first three items with a reasonable accuracy. There are even efforts to influence physicians' opinion in these areas such as whether a man should or should not be able to work and whether the disability is a result of the accident in question or not. It is my feeling that in these areas the physician should reflect on his knowledge of the case and state his opinion forthrightly and definitely, realizing that he is a better judge of this aspect of the case than anyone else.

The fourth factor determining disability, and a responsibility of physicians, is the amount of permanent loss caused by the injury which is by far the hardest part of disability evaluation.

A physician making a permanent disability evaluation rating should recognize that the current customs and traditions in Okla-

homa represent many compromises. The papers by Doctor William K. Ishmael, Doctor Howard B. Shorbe and that of Doctor Bob J. Rutledge outline the current customs and traditions very completely. One should recognize these approximate values for what they are, that is they are not a precise anatomical physical impairment. They are current average ratings that are quite acceptable in the majority of cases. You must take all the facts into consideration and then scale the disability evaluation upward or downward depending on your opinion as to the degree of permanent disability.

If the physicians in Oklahoma who apparently from surveys get a fairly impressive proportion of their income from industrial sources will devote a corresponding amount of their time, intellect, and energy to familiarizing themselves with these brief expositions of disability evaluation and carry out their responsibilities therein with courage and conviction, I believe that by this act of quiet leadership we can fulfill our responsibilities to the injured Oklahoma working man more completely and more perfectly. □

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## AMA OPPOSES MEDICARE FOR ALL DISABLED

The American Medical Association and many other organizations are opposed to an Administration proposal to provide Medicare benefits to all disabled persons regardless of age. A person could qualify for Medicare under the amendment if his disability was expected to last one year. AMA believes that financially-distressed persons under age 65 are adequately covered by welfare programs.

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\*Based on Statistical Report, U.S. Dept. Commerce, ed. 86, and Fisher, G. F., and Vavra, H. M.: Pub. Health Rep. 80:961 (Nov.) 1965.

Note: DEXTROSTIX is not meant to replace the more precise analytical laboratory procedures such as needed in glucose tolerance testing.

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**Ames**

# Disability Evaluation of Neurological Injuries

BOB J. RUTLEDGE, M.D.

*The early importance of recorded information of a patient's condition in determining the neurological deficit.*

*Patients with multiple symptoms without objective corroborative signs only rarely suffer significant neurological impairment.*

THAT THE workmen's compensation laws are incongruous is exemplified by the fact that a murderer may be incarcerated or executed but is never forced to make any financial restitution to the family of the deceased while the workman's compensation laws provide that the worker receive some compensation for any injury he receives at work, even though no negligence existed on the part of the employer, and sometimes as a result of the employee's own negligence. However, until improvements are made in these laws it is essential that doctors of medicine become aware of their responsibilities under the law and render opinions as to the amount of impairment (disability) an injured workman has sustained in an accurate and lucid manner. This estimation of disability should be based strictly on medical

factors and not the sociological factors that so many of these families face.

Evaluating permanent disability following injuries to the brain is even more difficult and conjectural than injuries elsewhere because of the integrated cerebral functions such as comprehension, memory, judgment and the ability to communicate. The history, early behavior and progress of the patient shortly after injury to the nervous system is sometimes as important as a neurological examination at a later time when the patient has reached the end of his recovery period. The percentage of permanent disability that is estimated on persons injured and covered by the workmen's compensation law is based on their ability to do ordinary manual labor and not necessarily the work they were doing at the time of their injury. Cerebral concussion is a state of unconsciousness not exceeding eight minutes following trauma to the head, without objective neurological deficit. By definition this patient makes a total recovery and the partial permanent disability is zero. The so-called post concussion syndrome is a tension personality disorder following trauma to the head which is generally categorized as psychogenic or psychoneurotic in origin. At the present time there is only highly speculative evidence that these symptoms of headache, irritability, insomnia, dizziness, *etc.*, can result from any organic brain dysfunction. Cervical strains



(whiplash injury) without objective evidence of neurological deficit or x-ray evidence of injury cause little if any permanent disability, anywhere from zero to five per cent to the body as a whole. Spontaneous subarachnoid hemorrhage is usually due to a congenital aneurysm of one of the intracranial vessels. These may rupture at any time, even while the patient is asleep and it is not felt that blows to the head contribute to their rupturing at the particular time of the blow. However, if the patient is straining, particularly if this straining is associated with work that is much harder than the worker's usual activities, it is difficult to deny that this action did not have a causal relationship with the bleeding at that time. If it is established that this straining did contribute to the hemorrhage, then the disability would be based on the neurological deficit, if any, after he reaches the end of his recovery period.

Linear skull fractures as such heal spontaneously and there is no permanent disability. Fractures into the middle fossa and ear occasionally cause some loss of hearing, rarely deafness. Deafness in one ear is six per cent partial permanent disability. Anosmia occasionally occurs with trauma to the head particularly after falling backwards and when this is complete, estimated partial permanent disability is five per cent to the body as a whole. Depressed skull fractures without laceration of the dura and without neurological abnormality have a post-trau-

matic convulsive complication of approximately three per cent. If this complication is going to occur, the majority of patients will have a convulsion within six months' time. After six months if the patient has not had a convulsion, the disability should be five to 15 per cent permanent disability to the body as a whole based on the injury and the possibility of this complication in the future. When the dura is lacerated, the incidence of convulsions arises to ten to 15 per cent and the disability estimation rises accordingly.

An uncomplicated lumbar disc removal without fusion and without neurological deficit is ten to 15 per cent partial permanent disability. An uncomplicated cervical disc syndrome with removal of the disc or nerve root decompression posteriorly without motor weakness is 15 to 25 per cent depending primarily upon the mobility of the neck and any hypesthesia of the fingers. An uncomplicated anterior disc removal and fusion is ten to 20 per cent if the patient has no weakness of his extremities or pronounced limitation of neck movements. Cerebral lesions with marked paresis of an extremity are usually associated with other abnormalities such as sensory loss, pain and other complex integrated cerebral functions and the disability has a wide range. A hemiplegia from a cerebral lesion is in the neighborhood of 80 to 100 per cent permanent disability. Severe global aphasia from left cerebral injuries in right handed individuals is 100 per cent permanent disability. Paraplegia or quadriplegia from spinal cord injury are each 100 per cent permanent disability. Quadriparesis is 100 per cent permanent disability. Paraparesis or hemiparesis from spinal dysfunction may be less depending on the degree of weakness but generally they are caused by severe injuries and the disability in these individuals is necessarily high. Injury of the cerebellar pathways gives rise to tremor and unsteadiness of the musculature. This can vary from minimal changes on intention to gross disturbance in balance of the trunk as well as the extremities. The disability can be rated from less than five per cent to 100 per cent. □

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**Contraindications:** Edema; danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. The drug should not be given when the patient is senile or when other potent drugs are given concurrently.

**Warning:** If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Pyrazole compounds may potentiate the pharmacologic action of sulfonyleurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy. Use with great caution in the first trimester of pregnancy.

**Precautions:** Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should be closely supervised and should be warned to report immediately fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools or other evidence of intestinal hemorrhage. Make regular blood counts. Discontinue the drug and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensives.

**Adverse Reactions:** The most common are nausea, edema and drug rash. The drug has been associated with peptic ulcer and may reactivate a latent peptic ulcer. Infrequently, agranulocytosis, or a generalized allergic reaction may occur and require withdrawal of medication. Stomatitis, salivary gland enlargement, vomiting, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported but cannot definitely be attributed to the drug. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

**Dosage in Osteoarthritis:** The initial daily dosage in adults is 300-600 mg. in divided daily doses. When improvement occurs, dosage should be decreased to the minimum effective level; this should not exceed 400 mg. daily, and is often achieved with only 100-200 mg. daily.

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helps osteoarthritic  
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joining page for  
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summary

TA-4919 PC

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3 out of 4 osteoarthritics com-  
pletely or markedly improved

76.9% of 407 patients

84.6% of 39 patients



# Why these 7 patients with **moderate to severe anxiety** may respond better to Mellaril

## 1. The agitated patient.

Anxiety—particularly that beyond the range of minor tranquilizers—frequently is expressed as gross motor restlessness, fidgetiness and purposeless movements, and may erupt into aggressive behavior. Mellaril is almost a specific for those patients whose anxiety follows such a pattern.







## 2. The psychosomatic patient.

The family physician is rarely given the diagnostic luxury of a classic, textbook "anxiety state." Most often he must probe for anxiety masked by a functional disorder—or which exacerbates a somatic problem. Double-blind evaluations have demonstrated that Mellaril can be a significant adjunct in the treatment of such patients.



## 3. The patient under situational stress.

Mellaril helps the patient deal with stresses of everyday life. Nonhabituating, it can be given for extended periods of time. It does not "separate" the patient from practical problems and pressures, does not induce euphoria or a fuzziness which can compromise the ability to cope with realities. Rather, it helps the patient move more competently in his daily world by eliminating useless tension, by allowing him to conserve emotional resources and energies, and to direct them against the problems really worth worrying about.



## 4. The menopausal patient.

The woman who sees change of life as the end of useful life requires support from both family and family physician. Whether the psychological impact of menopause is directly related to hormonal changes, or merely coincidental, is debatable, but estrogenic therapy is frequently inadequate. Mellaril is a useful aid for these patients and, alone, or in combination with reduced estrogen dosage, will help ease the menopausal misery.



## 5. The previously hospitalized psychiatric patient.

Such a patient may still require the type of medication he has been accustomed to, but because he is no longer in a controlled setting the acceptable level of adverse reactions must be lower. In such circumstances Mellaril is perhaps the drug of choice.



## 6. The agitated geriatric.

Tranquilizer therapy in the elderly patient always involves special (or at least accentuated) problems: the possibility of drug-induced ataxia, hypotension or depression, for example, assumes an additional significance. These reactions have rarely been observed in geriatric patients treated with Mellaril.



## 7. The constantly returning patient.

The anxiety patient who has not responded to a minor tranquilizer is not very likely to benefit from your minor tranquilizer of second choice. A major tranquilizer, such as Mellaril, may be indicated in such patients.

**Contraindications:** Severely depressed or comatose states from any cause, and in association with or following MAO inhibitors; severe hypertensive or hypotensive heart disease.

**Precautions:** Hypersensitivity reactions (e.g., leukopenia, agranulocytosis) and convulsive seizures are infrequent. Pigmentary retinopathy has been observed where doses in excess of those recommended were used for long periods of time. May potentiate central nervous system depressants, atropine, and phosphorus insecticides. Where complete mental alertness is required, administer the drug cautiously and increase dosage gradually. In addition, orthostatic hypotension (especially in female patients) has been observed. Epinephrine should be avoided in treatment of drug-induced hypotension.

**Side Effects:** Pseudoparkinsonism and other extrapyramidal disorders are infrequent; drowsiness, especially in high doses early in treatment, may occur; nocturnal confusion, dryness of the mouth, nasal stuffiness, headache, peripheral edema, lactation, galactorrhea, and inhibition of ejaculation are noted on occasion; photosensitivity and other allergic skin reactions may occur but are extremely rare.

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in moderate to severe anxiety, 25 mg. t.i.d.

**Mellaril<sup>®</sup>**  
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Periurethral glands



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# Flagyl<sup>®</sup>.....

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Seminal vesicles



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Flagyl destroys trichomonads in the inner crypts, glands and cavities of the genitourinary tract in both women and men. Consequently, Flagyl is capable not only of curing trichomoniasis in women but also of preventing reinfection.

Correctly used, with due attention to repeat courses of treatment for resistant, deep-seated invasion and to the presumption of reinfection from male consorts, Flagyl has repeatedly produced up to 100 per cent cure in large series of patients.

When the diagnosis of trichomoniasis is positive, Flagyl is positive.

*Dosage and Administration*—In women: one 250-mg. oral tablet three times daily for ten days. A vaginal insert of 500 mg. is available for local therapy when desired. When used, one vaginal insert should be placed high in the vaginal vault each day for ten days; concurrently two oral tablets should be taken daily.

In men in whom trichomonads have been demonstrated: one 250-mg. oral tablet twice daily for ten days.

*Contraindications*—Pregnancy; disease of the central nervous system; evidence or history of blood dyscrasia.

*Precaution*—Complete blood cell counts should be made before, during and after therapy, especially if a second course is necessary.

*Side Effects*—Infrequent and minor side effects include nausea, metallic taste, furry tongue and headache. Other effects, all reported in an incidence of less than 1 per cent, are diarrhea, dizziness, vaginal dryness and burning, dry mouth, rash, urticaria, gastritis, drowsiness, insomnia, pruritus, sore tongue, darkened urine, anorexia, vomiting, epigastric distress, dysuria, depression, vertigo, incoordination, ataxia, abdominal cramping, constipation, stomatitis, numbness of an extremity, joint pains, confusion, irritability, weakness, flushing, cystitis, pelvic pressure, dyspareunia, fever, polyuria, incontinence, decreased libido, nasal congestion, proctitis and pyuria. Elimination of trichomonads may aggravate candidiasis.

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In fact, Hygroton is an awfully nice way to treat the Mrs. Larsons in your practice. Just tell them you can get their ankles back at half price.

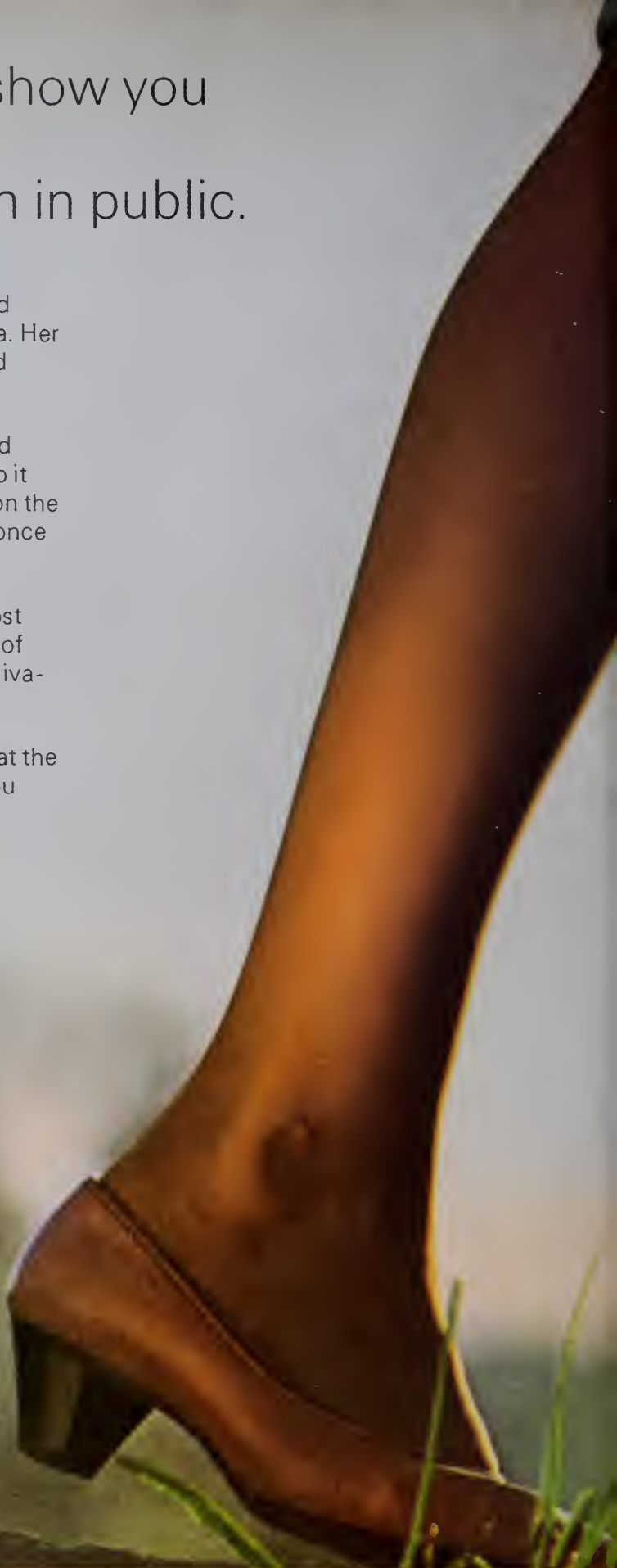
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Warning: With administration of enteric-coated potassium supplements, the possibility of small bowel lesions should be kept in mind.

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1 in patients receiving corticosteroids, ACTH, or digi-  
s. Salt restriction is not recommended.  
e Effects: Dizziness, weakness, nausea, vomiting,  
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postural hypotension, constipation, leukopenia, throm-  
bocytopenia, agranulocytosis, impotence, dysuria, tran-  
sient myopia, skin reactions, including urticaria and  
purpura, epigastric pain, or G.I. symptoms after  
prolonged administration.

Average Dosage: One tablet (100 mg) with breakfast  
daily or every other day.

Availability: Tablets of 100 mg.

For full details, see prescribing information.

6524-V(B)



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Because it gets her *out* in public in the first place. At 43, Mrs. Larson worries about appearances and swollen ankles don't help.

But Hygroton's cosmetic effect is only half the story. Hygroton and digitalis therapy helps her get back in the swing of things. Gives her a second wind. Gets rid of the extra pillow she needed for a good night's sleep. Now she even likes to take walks. Just for the fun of it!

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See preceding pages for brief summary of prescribing information.

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# Disability Evaluation of Compensable Injuries in Arthritic Patients

WILLIAM K. ISHMAEL, M.D., F.A.C.P.

*The problems of assignment of responsibility for disability in arthritis is discussed in this brief review.*

THE PROBLEM of expressing human pain and disability in terms of dollars and cents where there is claim for disability is made all the more difficult in patients with arthritis because the disease is painful and disabling, and in most instances the cause is unknown. Furthermore, the clinical course of arthritis is unpredictable and whereas trauma and strain may aggravate arthritis, it is not the cause of any form of articular disease other than "pure" traumatic arthritis.

## TRAUMATIC ARTHRITIS

The term "traumatic arthritis" is difficult to define and strictly the term should be limited to joints which have suffered sufficient trauma to disrupt the normal anatomy. Bleeding usually results. If iatrogenic or natural healing efforts fail to return the structure to normal physiologically, then predictable disability will occur, the direct

result of injury. More difficult to evaluate is the disability resulting from trauma or from an accelerated job-related degenerative process or "microtrauma," either in a normal joint or one weakened by pre-existing disease or age.

## JOINT DISEASE AND COMPENSABLE INJURIES OR STRAIN

Gouty arthritis best illustrates the problems of disability evaluation in arthritis as more is known about this form of arthritis. Primary gout is an inherited disorder of urate metabolism which may cause pain and disability in the musculoskeletal system. Most subjects with hyperuricemia do not have joint disease; however, the majority of them who do have episodic joint involvement relate some history of trauma or strain prior to a joint episode. The physician's responsibility is immediately apparent: Did the trauma precipitate an exacerbation of acute gouty arthritis in a normal joint that would not have occurred otherwise; or was the episode a spontaneous articular attack of gout and unrelated to trauma; or was it purely traumatic and not related to the pre-existing hyperuricemia? Obviously each patient must be individualized since traumatic damage may be associated with an attack of gouty arthritis. Unrecognized and untreated gout may progress

to permanent joint damage and disability in a small per cent of subjects with hyperuricemia. It would be natural for a hyperuricemic individual who had no previous joint disease to blame the subsequent disability on the trauma which precipitated the initial joint attack, especially if his disease progressed to chronic or tophaceous gout with complete disability. One must separate the temporary disability associated with the precipitated joint exacerbation from the subsequent crippling resulting from gouty arthritis. Otherwise, the employability of the millions of persons who have some degree of some form of arthritis would be jeopardized. To exclude this large group from employment would be untenable.

Consequently, individualization is necessary in each patient. The physician is primarily responsible to his patient, yet he must consider all persons with the disease and the carrier responsible for paying for time loss and permanent disability.

In the instance of pretophaceous gouty arthritis, the individual has had a pre-existing disease, a temporary disabling joint attack has occurred and after a given period of time, the joint heals and the subject returns to his old job with no residual pain or disability. It would seem feasible that the job-related trauma was the cause of the given attack and that the temporary time loss would be compensable. Future attacks or crippling from the disease, however, would be the result of the disease and not related to the trauma. How long can temporary disability be ascribed to an attack of gouty arthritis? The physician is aware of the variability of the clinical course of gout

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and other disease, and yet there are predictable limitations to the length of time that disability may be attributed to injury and from that point on, the result of disease. Arbitrary decisions must be made, in good faith to the patient, other subjects with the same disease and the responsible insurance carrier as to when disability ceases to be due to injury and from then on due to disease.

In the instance of gouty arthritis, in the pretophaceous recurring attacks stage, a treated joint exacerbation should subside in three to seven days, and an untreated attack in three to 21 days. In the chronic or tophaceous stage, longer periods may be necessary to recover. Permanent disability would be present only if there was sufficient trauma to disrupt the anatomy or physiology of the joint beyond its capacity for complete healing. It is the physician's responsibility to determine the part of the disability that is due to disease and that which is contributed by the actual trauma.

It should be pointed out that patients with gout may have painful attacks in the spine, bursae, sacroiliac joints, kidneys, *etc.*, as well as in peripheral joints and in many instances the recognition of the presence of this or other forms of articular disease may be difficult.

#### DISABILITY EVALUATION IN OTHER FORMS OF ARTHRITIS

The principles involved in evaluating disability resulting from trauma in gout apply to all forms of arthritis except that which is purely traumatic.

#### RHEUMATOID ARTHRITIS AND THE OTHER COLLAGEN DISEASES

Presently, there is no evidence that injury or trauma is the cause of rheumatoid arthritis. As in the instance of gout, trauma may precipitate a flare-up of the disease or aggravate a pre-existing joint problem. Temporary disability may result from the effects of the trauma, but persisting permanent disability would be attributed to the disease on the theory that without the trauma the disease would have "caught up" with the patient over a stated period of time. The length of time that the disability



may be attributed to trauma and not disease is a moot question, but a period of four to six weeks is an average healing time for simple strains. Arbitrarily, up to 12 to 14 months may be considered an equitable healing period in exceptional problems in rheumatoid arthritis as stress may set off vicious circles of pain, sleeplessness, exhaustion and sometimes melancholic phenomena.

#### PRIMARY OSTEOARTHRITIS

Although osteoarthritis does not cause essential or total crippling, its frequency makes it the most prominent arthritis problem in industry. Involvement of the cartilages of the spine, fingers and knees in this disease results in significant predilection for painful degenerative reactions following strain and trauma. As in other forms of arthritis, only temporary periods of disability should be attributed to trauma unless there is anatomical disruption of the structures. The predilection for gastrointestinal upsets, headaches and difficulty in sleeping in the osteoarthritic may make their overall management difficult.

#### ARTHRITIS RESULTING FROM INFECTION

Tuberculous, gonorrheal, staphylococcal and other direct joint infections occur relatively uncommonly but when they do, each instance must be individualized. Penetrating wounds, compound fractures, *etc.*, would relate to the injury; however, hematogenous infections are not related, unless the basic infection is industrially related, for example, a laboratory worker becoming infected while working with bacterial cultures.

A difficult problem would arise if an individual became infected with beta hemolytic streptococcus, alpha type "in the line of duty." Should rheumatic fever, glomerulonephritis or Sydenham's chorea follow the streptococcal infection and disability follow, great importance would be attached to the association of the method of acquirement of the infection and the occupation. A recurrence of previously existing rheumatic fever would come under the same category, but more prone to be considered as an aggravation of previously existing disease.

Recent reports strongly indicate the association of the *Bedsonia* organism to Reiter's disease. Since the source of this infection is unknown, it would be considered in the same way as other forms of arthritis.

#### NEW GROWTHS

Diagnosis of underlying disease is important in tumors as in the various forms of arthritis. Multiple myeloma, the leukemias, lymphogenic neoplasms, *etc.*, may underlie the failure of traumatic injuries to heal in some instances. Precipitation of painful reactions for a temporary period may be considered, but in a stated period of time, the disease would have "caught up" with the individual.

#### SPECIAL SYNDROMES, PROBABLY RELATED TO UNDERLYING DISORDERS

*Bursitis*—It is true that a normal bursa may become inflamed following trauma; however, a significant number of bursitis attacks are in reality an exacerbation of some underlying disorders. If the inflammation persists for too long or the reaction is out of proportion to the degree of trauma, underlying gout, osteoarthritis, rheumatoid arthritis or other forms of rheumatic disease should be ruled out.

Tendinitis, epicondylitis, tenosynovitis, the carpal tunnel syndrome, reflex sympathetic dystrophy, myositis, "fibrositis," *etc.* should be considered similarly to bursitis and each patient must be completely individualized.

#### PSYCHOGENIC RHEUMATISM AND MALINGERING

Conversion hysteria and malingering may be difficult to differentiate and especially difficult to evaluate from the standpoint of compensable disability. These problems are not to be confused with the predictable or "normal" psychomotor phenomena that are present in many patients with arthritis. As noted, subjects with primary osteoarthritis are prone to have motion sickness, headaches, gastrointestinal problems and be light or erratic sleepers. Many have a constitutional predisposition to sustained emotional stress.

Of particular interest is the individual who has inherited primary osteoarthritis

## *Arthritic Patients* / ISHMAEL

and also gout with its tendency for diabetes. Many of the patients in this group cannot remember being free of pain and are prone to have severe pain and prolonged periods of disability after trauma. These patients probably are the most difficult of all to manage and to evaluate their disability, especially that which may be attributed to trauma.

### SUMMARY—CONCLUSIONS

Trauma may aggravate arthritis or precipitate an attack earlier than it would have

appeared otherwise. There is no evidence presently to indicate that trauma is the cause of any form of arthritis other than traumatic arthritis.

Evaluation of disability following trauma in an arthritic is a highly individualized problem in each instance. As a rule, only temporary disability may be attributed to the trauma (in the absence of anatomical disruption of the joint), and the disability which persists beyond an equitable healing period should be considered a result of the disease. □

600 N.W. 11th Street, Oklahoma City, Oklahoma

## HANDICAPPED PLACEMENTS EXCEEDS ESTABLISHED RECORD

Private industry in Oklahoma filled 19,860 jobs with persons having a physical or mental limitation during 1966, according to records of the Oklahoma State Employment Service. This official number of placements of handicapped applicants established a new all-time record for Oklahoma, eclipsing the previous record of 15,766 placements during the calendar year of 1965.

Many more disabled persons were employed by government agencies and private industry, but were not tallied in the Employment Service statistics, as they were not registered or referred by that agency.

Oklahoma employers are becoming better acquainted with the abilities of the handicapped, as evidenced by the increase in placements. In 1954, 5,000 handicapped persons were placed in private industry. Each year since, an increase has been noted in handicapped placements affected only by the general economy of the State. Although 27th in population, Oklahoma ranked *fourth* in the nation during 1966 in the number of jobs filled by handicapped individuals, surpassing the heavily populated State of California, and bowing only to New York, Pennsylvania, and Texas.

Credit for the employer acceptance of the handicapped must go to many groups and individuals. President Harry Truman, following World War II, knew of the problems of the returning disabled GI's in obtaining

employment and established the President's Committee on Employment of the Handicapped, whose mission was to create an atmosphere whereby handicapped individuals would receive equal consideration for employment. National Employ the Handicapped Week was established by Congress as the first full week of October each year, designed to call national attention to the plight of the well-trained and qualified handicapped individual seeking employment. In 1956, Governor Raymond Gary established the Oklahoma Governor's Committee on Employment of the Handicapped, and the following year the Oklahoma Legislature designated that committee as a State agency. The Oklahoma committee was charged with the responsibility of carrying out the President's committee mission in the state and to work with all community and state-wide groups in furthering employment opportunities for the handicapped. Through the efforts of the Governor's committee, Mayor's committees have been established in Oklahoma's larger cities and are assisting in the program at the community level.

The *Team Approach* has resulted in more handicapped persons being rehabilitated and returned to the labor market—thereby becoming a productive worker in his community. "Taxpayers instead of tax consumers" is the goal of motivated and qualified handicapped workers. *It is good business to hire the handicapped.*

# The Doctor-Claim Man Relationship

WILLIAM B. PUTNAM

*Insurance companies pay out millions each year in claims dependent upon doctors' opinions of extent of injury. Claim executive laments the existence of the professional testifier.*

IT WILL come as a distinct surprise to too many physicians who read this article to learn that the vast majority of insurance company claim representatives, those individuals charged with the responsibility and ultimate decision of paying out millions of dollars in insurance company money each year in Oklahoma, want to know the *truth* about the condition of the doctor's patient in whom they are interested.

No group of people—outside those who are in a sense actually related to the medical profession, such as pharmacists, medical supply houses, hospitals, *etc.*,—are as closely associated with the doctors of this state as are the insurance company claim men. The complexities of modern day insurance coverages and the extensiveness of those coverages bring the doctor into contact with insurance

company claim representatives in over 80 per cent of the accident and injury patients they treat and over 60 per cent of the patients suffering from illnesses.

Yet, in spite of this familiarity by association there is a wide area of lack of understanding between the two professions. Many doctors honestly do not believe that insurance companies want them to “call them as they see them.” However, there is nothing the reputable claim man wants so much as to be able to know that the physician reporting to him is giving him an unbiased, straightforward appraisal of the patient's condition, whether the claim man's interest in the patient be from the standpoint of third party liability injury claims, medical payments, accident and health, group hospitalization and disability, life or workmen's compensation.

In most of the above the claim man's responsibility is to determine merely that injury exists, that it is the result of the incident in question, and that the charges for services are reasonable and necessary. The automobile liability bodily injury and general liability bodily injury cases, however, have added aspects. In order to evaluate a claim or law suit fairly and intelligently for settlement purposes, the claim man must have an accurate picture of the claimant's condition. This is a difficult decision for him



to make when the doctor to whom the patient is referred by the insurance company for examination and evaluation reports that the patient has recovered from any injury he may have received in the accident in question, needs no further treatment and has no permanent partial disability, while the doctor to whom the patient was referred by the patient's attorney reports that the patient is still suffering from his injuries, needs additional treatment or has a permanent partial disability of as much as 50 per cent to the body. The claim profession recognizes that the practice of medicine is not an exact science, that differences of opinion are expected and anticipated among honorable men. Yet, it is impossible to conclude that two physicians with similar educational backgrounds and experience can honestly have such widely divergent views and opinions.

This issue of *The Journal* is devoted to the industrial injury patient and from the insurance company standpoint, this means workmen's compensation insurance. Nowhere in the medical-legal-claim relationship is the divergence of opinion more pronounced than in this area. In fact, the seeds of the professional testifier undoubtedly were spawned here. Nurtured, unwittingly, it is hoped, by the State Industrial Commission and its successor, the State Industrial Court.

The claim man's responsibility to his company and to the claimant's employer, in this field, is to determine from the facts and circumstances that an accident occurred, that injury resulted and that the accidental injury arose out of and during the course of the claimant's employment. Satisfied that those requirements are met, he then wants the claimant to have the best medical care available, to see that the claimant is paid weekly temporary total benefits of the maximum amount the law allows, and eventually to either see that the claimant has completely recovered without permanent partial disability or to compensate him, fairly and equitably, for the amount of permanent partial disability that may have resulted from his accidental injury.

It is here that the professional testifier is most often encountered. The previous in-

dication of the unwitting fostering of this malady by the State Industrial Court was made with reference to its time honored practice of "splitting the medical" as its solution to the amount of permanent disability to which an injured employee is entitled in a contested case. If the doctor estimating disability for the respondent and insurance carrier established the extent of permanent partial disability at ten per cent and the doctor estimating disability for the claimant and his attorney gave a 40 per cent rating, the order of the Industrial Commission-Court of 25 per cent was a foregone conclusion. Members of the court in recent years have strongly denied that they follow this method of arriving at justice, but recent surveys of decisions of various judges show an interesting correlation between the amounts of their awards and a split of the medical.

Anticipating this result, it is not surprising that the claimant's attorney searches for a doctor who will give him the highest possible rating, and in retaliation and as a means of survival, the respondent and insurance carrier will depend on a doctor who will evaluate for them conservatively. Thoroughly honest, capable physicians have admitted to me that they find themselves slanting their opinion in favor of the side contracting for their services and must continually fight against this inclination in their effort to be objective. Perhaps it is a natural tendency to take sides. Few in our society are completely neutral about anything.

A source of concern to insurance companies and employers has been the tendency of the State Industrial Court to fail to take into account the eminence, standing, education, training and recognized reputation and

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ability of differing physicians. This has been especially notable in, but not limited to, industrial heart cases. All that has been necessary in some cases in order to have them adjudged compensable, is for a general practitioner from a small outlying community, with no specialization in cardiac diseases, to express that in his opinion the patient's attack was precipitated, aggravated or brought on by his work. Ignored is the testimony of the heart specialist, who by special education, training and experience is a recognized authority on cardiac diseases both among his colleagues and the public, that there was no connection between the employee's work and his heart condition. This, despite the fact that the specialist is the doctor to whom the general practitioner and the industrial court judge would go if they were felled by a heart attack! Appeal has been ineffective in these claims because the Oklahoma Supreme Court has consistently refused to set the orders aside, since they were founded on "competent medical evidence," meaning the opinion of the general practitioner.

It is no secret to any of us in the medical-legal-claim professions that the professional testifier exists; that his report and/or testimony is for sale to the one who pays his bill. Nor, is there any secret that there is a market for his product. To the credit of the medical profession, those falling in this category are relatively few in number. To the credit of the legal and claim fraternities, those who seek his product also represent a small percentage. To the discredit of all three is that the situation exists at all. But, we do not live in a perfect world and Utopia is yet to be achieved in any area of life. However, we must all continue to work toward that goal—believing that through our best efforts we are gaining on the objective.

The Oklahoma Claim Men Association has recently adopted a statement of principles to guide its members in their relationships

with the various professions and types of organizations with which they do business.

Statement of principle No. VI is "statement of principles to the medical profession" and reads as follows:

(A) To remain forever cognizant of the benefits this profession bestows upon the health of the nation, dedicated to the relief of pain and the cure of disease.

(B) To seek a new level of cooperation with the medical specialists, with whom the Claim Profession embraces a mutual desire that an injured party receive proper medical care to effect prompt and complete recovery.

(C) Wherever possible, to meet with and explain to doctors our precise interest in a given case, whether contractual or predicated upon legal liability.

(D) Wherever possible, protect the bill of services of the doctor.

(E) Seek explanation of any medical report that seems inconsistent with the claim evaluation of an injury, but only to the extent of mutual enlightenment.

(F) Seek explanation of any bill of services that seem unreasonable, but never arbitrarily label a bill unreasonable until there has been an opportunity to explain what the medical service entails. And, if such explanation is refused, to resist the bill of services.

(G) To report any proper complaint to the proper parties and do not undermine the entire profession because of our differences of opinion with a few.

(H) To extend to any element of the medical profession our explanation of claim problems, and definitions of what we require and why, in order to properly handle claims.

(I) Refrain from requesting medical reports where one is not necessary.

(J) Secure the advices of the medical profession in areas that require a specialist's viewpoint to support our convictions. □

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McNeill, A. J.: Clin. Med. 8:518 (Mar.) 1961.

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Arnold, E. T., Jr.: Geriatrics 12:612 (Oct.) 1957.

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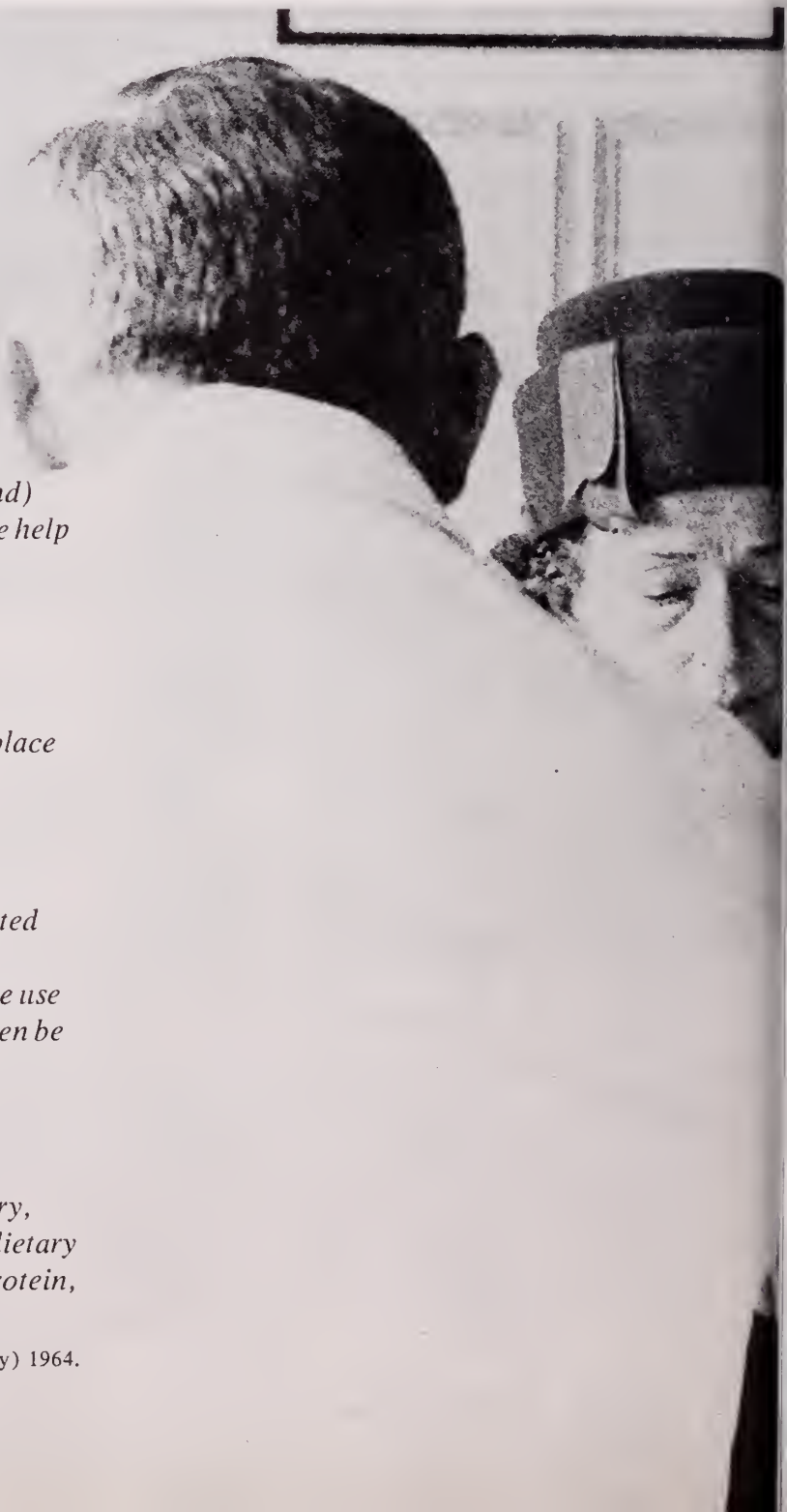
Morgan, A. F.: Gerontologist 2:77 (June) 1962.

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Morgan, A. F.: Gerontologist 2:77 (June) 1962.

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Riccitelli, M. L.: J. Am. Geriatrics Soc. 12:489 (May) 1964.





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# A Lawyer's Viewpoint

GEORGE F. SHORT

*You may be surprised to learn that lawyers can often identify the physician from the language content in his report alone!*

IT MAY SEEM presumptuous for a lawyer to offer criticism or recommendations to physicians on the subject of disability evaluation in workmen's compensation cases. Indeed, it is presumptuous from the standpoint of the medical problems involved. The lawyers' viewpoint can be of some benefit to physicians by describing the context in which your opinion is given. It is hoped that the following observations may be of some value to you, as physicians, in your encounters with industrial injury disability evaluation.

There are several facets of industrial injury law and practice in Oklahoma which should be borne in mind. Any licensed practitioner of the healing art in Oklahoma is "qualified" to express an opinion as an expert medical witness. That is, his opinion will be received in evidence in the case. As to its admissibility in evidence, no distinction is made between the testimony of a chiropractor, osteopath, medical resident, or a board certified specialist. The judge can

take these factors into consideration in deciding which testimony he will believe. Notice the word "testimony" is used. Technically, each case decided by the Industrial Court is based on the sworn oral testimony of witnesses; lay witnesses on the issue of liability, and medical witnesses on the nature and extent of the disability, if any. There are five judges who may hear up to fifteen cases a day. It would be burdensome to the point of impossibility to require a doctor to testify at each hearing, with one for each side. So, there grew the practice of submitting a narrative statement by the physician witnesses in the form of a letter to the Court in most cases. Some complicated cases still require oral testimony. These unsworn letters are admitted in evidence by the parties upon agreement. Hence, the Medical Report!

There is little a lawyer can suggest to the physician to assist in disability evaluation. Since the medical report contains your opinion, there are some comments which can be offered about it.

The report should contain:

- A. Date, time, and place of first visit.
- B. History of present illness.
- C. First examination.
- D. Subsequent examinations and treatment.
- E. Diagnosis.
- F. Prognosis: Including an evaluation of disability, past, present, and future and the necessity for future medical treatment or surgery.

The report should contain all pertinent clinical data, written as though it were addressed to another physician. The lawyer and the judge must understand the report also; therefore it must contain sufficient explanation of the significant findings to permit their understanding. However, it should contain accurate medical terminology so that it will not lose its character as expert testimony. The findings reported may be compared with the findings of other examiners. It should set forth accurately all the data on which your opinion is predicated. Obviously, if the reasons for your opinion are set out clearly, the judge is more apt to accept your opinion.

Our practice requires the expression of permanent partial disability in terms of percentage. Admittedly, this requirement is unrealistic from a medical standpoint. All too often, the medical report recites the history, findings, and a percentage of disability "from thin air." No doubt the physician author of the opinion feels the same way, for the task is difficult. The reader of the report should be able to find a basis to support the opinion of disability. In setting forth his conclusion, the doctor should make clear the significant findings from the insignificant; the incidental and congenital; and the significance of any absent findings which would be compatible with the complaints made. Oftentimes, confusion is created by the doctor's failure to report all areas upon which some other examiner comments. The judge, or lawyer, reading the report may wonder whether this finding was present and considered insignificant or whether it was simply not present on the date of the examination. This often results in the doctor receiving telephone inquiries and requests for supplemental reports, which are annoying. While the doctor is not an advocate for either side, he should be an advocate in support of his own opinion, once he has reached one. He should want it accepted and should support it with medical logic.

What, then, should the doctor consider in assessing permanent disability? The problem is compounded because our law requires the disability to be a lack of capacity "for the performance of ordinary manual labor." This simple phrase defies definition. It was meant to be an equalizing term; to place all

industrial claimants on the same level without regard to skill, experience, or education. It was *not* meant to reduce all industrial claimants to common laborers. The term should be construed to be all-inclusive rather than restricted to common labor endeavors. The physician should start with the patient's inability to function on a physiological level (setting forth the departures from the range of normal). To the extent that it affects his ability to work, he may also consider any inability to function on a social level. Likewise, he must differentiate between subjective complaints and objective findings. While Courts and lawyers are generally aware of these terms, they cannot always appreciate in which category your findings fall.

The preparation of the medical report is no small task. This fact is appreciated by the Court and lawyers. Do not make a small task of it. The doctor is entitled to compensation for its preparation and is expected to bill for it. So, the doctor should approach its preparation with the consideration it deserves.

Do not let the patient, the lawyer, the insurance company, or the Court influence your opinion. The Courts and lawyers tend to categorize each type of injury or disability in terms of "what is usual," then they glibly let you know what is expected of you. Beware. Imaginative attorneys have produced most of the progress in jurisprudence but they should not be allowed to impose non-medical considerations on your disability evaluations.

Do not be hesitant to report your frank opinion. Some physicians whose practice comes in part from insurance companies be-

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## Viewpoint / SHORT

come concerned that "they aren't going to like it" when an opinion of a high degree of disability must be rendered them. The truth is that they prefer knowing the gravity of the claim with which they are faced. At the other extreme, why be afraid to express an opinion that the patient is malingering? Granted, there is disagreement whether malingering is a diagnosis. The term has moral connotations. It suggests cheating. However, I find the physician's alternative phraseology "the complaints are on a functional basis" to be vague, evasive, and usually misunderstood. If the term malingering is not used (since a diagnosis should not praise or condemn) then a better term should be found.

A final word of caution—do not fall into patterns of terminology or form in preparing your reports. Some doctors' reports are so set in the same form with identical terms and phraseology, that they can be recognized by lawyers and judges without seeing the letterhead or signature. This unfortunate habit weakens the value of the doctor's opinion in the eyes of the Court. Avoid pet phrases and form that is too standard.

In summary, your opinion as an expert will receive more weight and credit if the reasons for your opinion are apparent in your report. You should be an advocate in support of your opinion. An expert has been defined as one who has good reasons for guessing wrong. Have good reasons and your task will be easier. □

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# Rating of Permanent Physical Impairment to the Hand

JAMES P. BELL, M.D.

*The evaluation of permanent physical impairment to the hand is made relatively simple by the use of a mathematical formula.*

“PHYSICAL impairment is a purely medical condition. Permanent physical impairment is any anatomical or functional abnormality or loss, after maximum medical rehabilitation has been achieved, which abnormality or loss the physician considers stable or non-progressive at the time the evaluation is made. Permanent disability is not a purely medical condition. When using the term ‘permanent disability’ it is assumed that there is an actual reduced or absent ability to engage in gainful activity because of ‘impairment’ and no fundamental or marked change in the future can be expected.”<sup>1</sup>

The evaluation of permanent physical impairment to the hand can be somewhat more difficult if there has been injury to more than one component part of the hand. A formula for arriving at a composite evaluation in the face of multiple injuries to the hand was described a number of years ago by Doctor Earl D. McBride<sup>2</sup> and is presented here as a guide to be used in the evaluation of permanent disability to the hand.

In the statutes of the Oklahoma Workmen’s Compensation Law,<sup>3</sup> specific awards are set out for loss of use of each of the

fingers and thumb. A specific award is also made for loss of use of the hand as a whole. In figure I these specific awards are indicated in terms of weeks of disability. The value for total loss of the hand is 200 weeks of disability, and this is equivalent to amputation at any point distal to the elbow down to and including the wrist. The value for the total hand less the value for all the digits, equals 40 weeks which is the value of the palm.



Figure I

Thumb	60 weeks		Hand	200 weeks
Index	35 weeks		Less	
Middle	30 weeks		Digits	160 weeks
Ring	20 weeks			
Small	15 weeks		Palm	40 weeks

When evaluating permanent physical impairment to the hand, it is necessary to keep in mind the specific awards as set down in the law and realize that permanent physical impairment of a part cannot exceed the value of total loss of that respective part. When more than one component part of the hand is involved it becomes necessary to

evaluate the impairment on the basis of the total hand. This is more than merely the sum of the respective impairments and involves a proportionate loss of the palm. The formula as originally presented by Doctor McBride was for the purpose of calculating this proportionate loss to the palm.

$$\frac{\text{Total Value of Hand in Weeks}}{\text{Total Value of Palm in Weeks}} = \frac{\text{Total Digit Loss in Weeks}}{X}$$

X = Proportionate Loss of Palm in Weeks

The value obtained for the proportionate loss to the palm is then added to the total loss of the digits and represents the total loss in weeks of physical impairment. The physician is ordinarily asked for a percentage disability rating and in order to convert this physical impairment as expressed in weeks into percentage of disability, it is necessary to divide this value by the total value of the hand which gives a percentage value that represents the permanent partial disability to the hand.

Injuries to the hand and fingers may be of many types; however, amputations account for a high percentage of the causes of permanent physical impairment. It is important to understand the law with respect to amputations, and figure II indicates the various levels of amputation and the respective amounts of physical impairment allotted by present day interpretation of the statutes, which is quoted as follows:<sup>3</sup>

"The loss of the first phalanges of the thumb or finger shall be considered equal to the loss of one-half ( $\frac{1}{2}$ ) of such thumb or finger. \* \* \*

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*Doctor Bell is a member of the American Academy of Orthopaedic Surgeons, the Oklahoma State Orthopaedic Society, the Southern Medical Association and the Lamplighter Orthopaedic Association.*

"The loss of more than one (1) phalanges shall be considered as the loss of the entire thumb or finger." \* \* \*

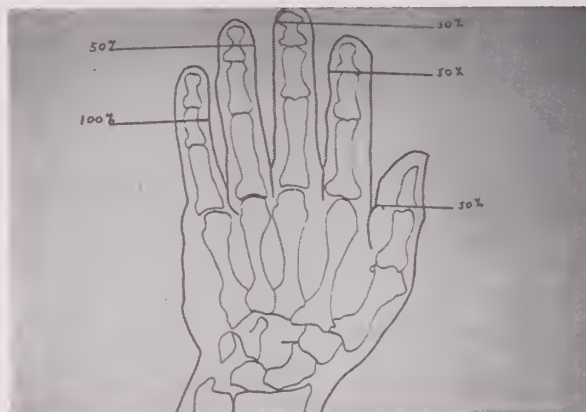


Figure II

The reader is referred to the American Medical Association Guide for Evaluation of Permanent Disability<sup>4</sup> to be used in evaluating physical impairment to the hand due to limited motion of the fingers. The Manual for Orthopaedic Surgeons Evaluating Physical Impairment<sup>1</sup> is also a useful guide when there is injury to the fingers resulting in physical impairment not due to amputation. With any method of evaluating permanent physical impairment, the physician must keep in mind the function of the hand as a whole and the results of any formula calculation must be considered in the light of the physician's own evaluation of the total hand function. This is true when evaluating physical impairment due to joint stiffness, deformity of the fingers, nerve and tendon injuries, loss of skin with resulting scar, and contractures.

The following examples are included to demonstrate the use of the formula in arriving at a total value of the physical impairment to the hand in the face of multiple injuries.

#### CASE I

This is a common laborer who sustained multiple amputations of fingers and thumb of the right hand. There was loss of the thumb at the interphalangeal joint, loss of the index finger through the neck of the middle phalanx, and loss of the middle finger through the neck of the proximal phalanx.



Thumb	50% of 60 weeks	=	30 weeks
Index	100% of 35 weeks	=	35 weeks
Middle	100% of 30 weeks	=	30 weeks
Total Digit Loss			95 weeks

#### FORMULA:

$$\frac{\text{Value of Hand (200)}}{\text{Value of Palm (40)}} = \frac{\text{Digit Loss (95)}}{X} \quad X = \frac{95 \text{ weeks} \times 40 \text{ weeks}}{200 \text{ weeks}}$$

$$X = 19 \text{ weeks}$$

Total Digit Loss	=	95 weeks
Total Palm Loss	=	19 weeks
Total Loss		114 weeks
114 weeks		
—————	=	57% Loss of Hand
200 weeks		

#### CASE II

This is a crushing injury to the hand with resulting partial stiffness of several digits as follows: Limitation of motion of the index finger with physical impairment amounting to 30 per cent of the finger, limitation of motion in the middle finger amounting to 20 per cent physical impairment, and partial amputation of the ring finger through the base of the distal phalanx.

Index	30% of 35 weeks	=	10.5 weeks
Middle	20% of 30 weeks	=	6.0 weeks
Ring	50% of 20 weeks	=	10.0 weeks
Total Digit Loss			26.5 weeks

#### FORMULA:

$$\frac{\text{Value of Hand (200)}}{\text{Value of Palm (40)}} = \frac{\text{Digit Loss (26.5)}}{X} \quad X = \frac{26.5 \text{ weeks} \times 40 \text{ weeks}}{200 \text{ weeks}}$$

$$X = 5.3 \text{ weeks}$$

Total Digit Loss	=	26.5 weeks
Total Palm Loss	=	5.3 weeks
Total Loss		31.8 weeks
31.8 weeks		
—————	=	15.9% Loss of Hand
200 weeks		

#### SUMMARY

When evaluating permanent physical impairment to the hand in the face of multiple injuries, it is necessary to compute an evaluation which represents not only the total value of the respective impairments to the digits but also a proportionate value ascribed to the palm. The evaluation is made somewhat easier by using a formula to calculate mathematically the proportionate loss to the palm in the presence of multiple digit involvement. The total loss of the hand as calculated and expressed in weeks of disability then must be converted to a percentage loss to the hand. □

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### MEDICAL ACCOMPLISHMENTS CITED

- The cancer survival rate has improved from one in seven in 1937 to one in three today.
- Seven out of ten prescriptions today are for drugs not even known ten years ago.
- More than 4,500,000 Americans would not be alive today if the death rate had remained at the 1935 level.
- Today's babies will live at least ten years longer than their 30-year-old parents.
- Eight hundred and twenty-two major drugs reached the market between 1940 and 1966 . . . nearly two-thirds of which were developed by United States research.

# Estimation of Permanent Disability to the Back

HOWARD B. SHORBE, M.D., F.A.C.S.

*Can estimation of back disability be made simple? The author tries to do just this in a short article that any physician can follow.*

THE LAWS of the State of Oklahoma regarding Workmen's Compensation assess disability or impairment to the back on the basis of the body as a whole. The laws of our State also regard the testimony of all licensed physicians equal when evaluating the disability of an individual. The worth of one man's testimony may be apparently weighted by an attorney when he qualifies one as an expert in a certain field. The courts recognize a medical witness as one for the plaintiff or for the defense. This automatically implies that he shades his testimony to favor the side who has called him into court as a witness. The expert medical witness should in no sense favor one side against the other, if he is determining physical impairment or disability; rather he should consider the facts that he can determine from the history and from the physical examination that he has done.

Efforts to develop methods to evaluate impairment of an extremity or part by some measurable yardstick that all physicians can use have proved neither universally success-

ful nor acceptable. These systems have varied but all have tried to establish base lines from which one could work and arrive at somewhat similar results. Some have proved cumbersome, some unworkable, and none wholly satisfactory. The American Medical Association has issued a "Guide to the Evaluation of Permanent Impairment to the Extremities and Back." This was written by a special committee of physicians seriously interested in this facet of medicine. In general, it deals almost exclusively in motion and restriction of motion. Weighted values are assessed to a normal and, as motion is lost, disability increases. Some have recognized this as a very satisfactory and adequate system which at least uses the yardstick principle, but there are many intangibles that it omits.

The American Academy of Orthopaedic Surgery has also issued a guide through a

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*He is affiliated with the American Orthopaedic Association, the American Academy of Orthopaedic Surgeons and the Association of Bone and Joint Surgeons, which he served as president.*

## LOW LUMBAR SPINE:

	Temporary Total Dis.	Partial Per. Dis.
Healed sprain or strain:		
Mild to moderate. Complete recovery.	3 to 8 wks.	0%
Moderate to severe. Some degenerative arthritis preceding—Residual pain.	8 to 12 wks.	5 to 10%
Severe sprain with extensive degenerative changes.	12 to 16 wks.	15%
Sprain with superimposed spondylolysis or spondylolisthesis. Latter graded I to IV without surgery.	12 to 16 wks.	20 to 35%
Same as above, with fusion and laminectomy, residual minimal pain.	6 months	10 to 15%
Same as above, with moderate pain.	6 months	20 to 25%
Compression fracture of lumbar area.	4 to 6 mo.	To 25% ver. body 15% body as whole
Same as above, with involvement of posterior elements and persistent pain and marked stiffness, and weakness.	6 to 9 mo.	40 to 50%
Same as above with adequate fusion and healing and symptoms diminished.	6 to 9 mo.	20 to 25%
Same as above, with neurological involvement and mild nerve pain.	6 to 9 mo.	Extreme variations in disability. To 25%
Same as above, with total paralysis.	6 to 9 mo.	100%
Herniated disk, with occasional episodes of sciatic pain.	4 to 8 wks.	5%
Removal of disk and no fusion and no persistent pain.	2 months	10%
Same as above, with moderate persistent pain.	3 to 4 mo.	15 to 20%
Removal of disk and fusion, minimal symptoms.	6 months	10 to 15%
Same, with moderate to severe symptoms.	6 months	25 to 35%

committee. In discussing disability of the back, they definitely state that motion alone cannot be used as a criterion, but "it must be judged on ability to carry out such functions as lifting, stooping, reaching, twisting and jumping." "Pain is a major factor of such limitations and should be evaluated in respect to its reality and its likelihood of permanence."

Many other "guides" have been published, as well as numerous excellent articles, papers and books. Among the best known are those written by Doctor E. D. McBride. In discussing disability of the back, he states "The vast majority of claims of personal injury or for Workmen's Compensation on back impairment are those in which the extent of pathological changes in the body tissues are not demonstrable, or their claim of existence unsupported by definite objective clinical symptoms. It is apparent that accurate, unbiased evaluation of a patient

with a disability of his back requires an interested physician who is willing to spend the time required for a detailed medical history, and then to do a careful physical examination with special attention to the examination of the back."

The above list of disabilities found in the back, is a compilation of several "guides." These need not be considered as dogmatic to the physician, but rather should be a method of assisting him in determining where his patient fits. He has an average figure that he can adjust upward or downward as he feels proper for his individual patient.

The physician must learn that his responsibility is not to evaluate the socio-economic problems of his patient, which is an administrative function and judicial responsibility. He is asked to give the physical impairments of the patient, which are the actual pathological changes from the normal. □

600 N.W. 11th, Oklahoma City, Oklahoma



## Collagen: A Review

MICHAEL T. BERGEON, M.D.

*A review of recent investigations into the structure of collagen and the collagenous nature of elastin.*

**C**OLLAGEN, a fibrous protein, is the most plentiful protein in the animal kingdom. Most abundant in those tissues whose primary function is mechanical (tendons, ligaments, cartilage, bone, blood vessels and skin), collagen displays remarkably diverse physical properties providing rigidity to bone, tensile strength to tendon and flexibility to skin.<sup>7</sup>

Collagen made its appearance very early in the course of evolution in such primitive animals as jellyfish, coral, and sea anemones. Its basic composition and structure have changed very little since then. Collagen is synthesized by fibroblasts. These fibroblasts usually originate directly from pluripotential adventitial cells but also may develop from reticulum cells. The fibroblast is a spindle shaped cell with an indistinct cell outline and a spindle shaped nucleus.

The basic collagen molecule bears the name tropocollagen (tropo from the Greek, to change; hence, a substance capable of

changing into collagen).<sup>5</sup> These molecules appear to be synthesized within the fibroblasts which are then extruded from the cells where they are polymerized into fibrils.<sup>12, 14</sup> The tropocollagen molecule is a rigid rod 2800 A long and 15 A in diameter.<sup>6</sup> It has a molecular weight of 340,000. Chemically it consists of many amino acids linked together to form a polypeptide chain. This polypeptide chain is twisted, like a coiled spring, to form a left handed helix; three of these helices are twisted about each other to the right, in the manner of a three stranded rope, to form a right handed super helix or triple helix.<sup>3</sup> The three chains are held together by hydrogen bonds. These hydrogen bonds are established between the nitrogen atom of the peptide linkage in one chain and the oxygen atom of the peptide linkage of the adjacent chain. Although individual hydrogen bonds are weak, the reinforcing action of a large number of these bonds produces a stable structure. Two of the polypeptide chains have the same amino acid composition while the third is different. The two similar chains have been designated  $\alpha_1$  and the third  $\alpha_2$ . Therefore the triple helix which forms the tropocollagen molecule consists of two  $\alpha_1$  chains and one  $\alpha_2$  chain.<sup>10</sup> Each of these chains consists of a repeating sequence of smaller subunits. The subunits of the  $\alpha_1$  chains differ from those of the  $\alpha_2$  chain.<sup>9</sup>

The most important amino acids composing the polypeptide chains are glycine, proline, and hydroxyproline. Glycine is important because it constitutes 30 per cent of the links in the tropocollagen molecule. Proline and hydroxyproline together make up 25 per cent<sup>4, 11</sup> of the links and the presence of a five-membered ring in their structure prevents rotation or folding of the polypeptide chain and lends stability to the portion of the molecule in which they are located. The presence of hydroxyproline is a distinctive feature of collagen since it is absent in appreciable quantities from all other animal proteins. Therefore, the amount of collagen present in various tissues may be determined by measuring the amount of hydroxyproline present.

A single amino acid has a length of approximately 2.8 Å. Each turn of a polypeptide chain in the triple helix contains ten amino acids and hence is 28 Å long. The polypeptide chain makes a total of about 100 turns in forming the tropocollagen molecule which is 2800 Å long. Since each turn contains ten amino acids the entire molecule contains 1,000 amino acids in each of the three polypeptide chains.

By electron microscopy collagen fibrils exhibit periodically repeating cross striations about 700 Å apart. For a long time it was believed that this 700 Å periodicity represented the length of the individual collagen molecule. Following the definition of tropocollagen with a length of 2800 Å as the basic collagen molecule it became necessary to provide another explanation for this regular periodicity.

The tropocollagen molecule is asymmetrical and possesses a distinct head and tail. In forming the collagen fibril these molecules line up end to end in adjacent parallel rows. The molecules all face in the same direction and have a regular overlap of one-fourth their length with the molecule of the adjacent row. This combination of asymmetry and overlap produce the typical cross striation with a periodicity of one-fourth the overall length of the molecule, or about 700 Å.<sup>8</sup>

Up to this point we have discussed collagen didactically as a specific invariable material. It is important to the complete understanding of this substance to be aware

of the different forms that exist in nature.

*Reticulin* is a fibrous protein characterized by its affinity for silver stains. It is generally considered an immature form of collagen. In wound healing it is the first fiber to appear. It is also found in certain locations in mature tissue. Reticulin possesses the 700 Å periodicity of collagen and a similar amino acid composition. If reticulin has the same chemical composition and ultrastructure as collagen, then why does it stain differently? The answer lies in the fact that although the fibrils appear the same under the electron microscope, each reticulin fiber contains fewer of these fibrils and more interfibrillary ground substance than its corresponding collagen fiber. The argyrophilic property is probably produced by this loose aggregation of fibrils allowing silver particles to be imbedded in the interfibrillary ground substance.<sup>13</sup>

Another variety of collagen is *procollagen* or soluble collagen. This form is easily extractable from tissue in cold salt solution.<sup>2</sup> Procollagen is plentiful in the newly formed collagen of rapidly growing tissue as in infant skin or healing wounds. As collagen becomes older it becomes less and less soluble and stronger chemical solutions are necessary to extract it.

This change in solubility is not due to any change in the tropocollagen molecules themselves but rather in their relationship to each other. Following formation by the fibroblast there is a gradual progression from loose aggregations of tropocollagen molecules to orderly arranged molecules which overlap one another by one-quarter their length. The organization does not stop here but continues as intermolecular bonds increase and the molecules become more inseparable.<sup>1</sup>

By solubilization and precipitation collagen was extracted in a "pure" form, which permitted visualization of 2800 Å segments.

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This resulted in the definition of tropocollagen as the basic collagen molecule. This concept has clarified previous inconsistencies and led to a practical working model for the structure of collagen.

This discussion has been restricted to presenting recently acquired information regarding structure rather than connective tissue metabolism and the controversy over the collagenous nature of elastin. Detailed structural data has, as yet, led to no new insight into such problems as the physiology of aging or the relative importance of collagenous changes in neoplasms and other pathologic processes. As understanding of function is based upon morphology, knowledge of structure should provide such insight in the near future. □

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## ABSTRACTS

### LEARNING BY THE NUMBERS

An attempt to compare the efficiency of learning by a programmed method with that of the traditional lecture-textbook approach was made by Mathis, Pierce and Pishkin. One hundred and seventy-four basic concepts and terms were rated from least to most difficult by giving them in test form to 87 junior medical students who had completed a minimum of 250 classroom hours in basic psychiatry. A precis of psychiatric fundamentals was then developed and an accompanying program of 90 sequential statements, questions and cues was structured. The precis and the program were given to a volunteer group of freshman and sophomore students at a nearby seminary for study. None of these students had received any training in psychiatry beyond an occasional highschool course in psychology. They were instructed to study the material and use the programmed sheets until they had achieved a proficiency of 90 per cent in identifying the statements on the program, and they were asked to record the amount of time spent in study. None of the seminarians ever reached the degree of proficiency aimed for and the time spent in study ranged from eight to 25 hours. A ten question quiz was prepared by an examiner from the American Board of Psychiatry and Neurology using questions he had formerly used in Board examinations, and this quiz was then given to ten of the seminarians and to the junior medical class. The average grade of the seminarians was 43.2 per

cent, and that of the third year medical students was 58.4 per cent. The highest grade, 82 per cent, was made by a seminarian who had spent 17 hours on the material. The 250 hours which had been spent in class by the junior medical students did not include the time spent (presumably) in preparation for the examination, nor does it account for the material relevant to the quiz which might have come from other medical disciplines. Furthermore, the seminarians had no motivation beyond that of simply participating in a study project, and actually spent much of their time looking up definitions of words already familiar to medical students who were striving for a grade. The authors conclude that programmed instruction could eliminate many hours now spent in the classroom which could better be used in the clinical setting.

**Reviewer's Note:** All of us whose progress through medical school was accomplished only at the expense of ischial bursitis and writers cramp must see a glad ray of hope for the contemporary student in this study. There is also the promise of alleviating the shortage of medical teachers by allowing them to give all of their instruction at the bedside rather than in the lecture hall.

An Experiment in Programmed Teaching of Psychiatry. James L. Mathis, Chester M. Pierce, and Vladimir Pishkin. *The American Journal of Psychiatry*, 122: 937-940, (February) 1966.



## THE STATE OF THE NATION

A useful and relatively uncomplicated method has been employed by Naughton to gain some insight into the "physical fitness" of some 250 American men, and he concluded that most are too "old" too soon. The test required the subjects to walk at a constant speed of 3.4 mph on a treadmill whose angle of elevation was regularly raised. The pulse rate and blood pressures were obtained during the last half of each minute, and a single-lead electrocardiogram was recorded throughout the test and for ten minutes thereafter. Inspiratory air volumes and the oxygen and carbon dioxide content of the expired air were determined every other minute. The exercise was halted when the pulse rate reached 180 per minute or when the subject complained of severe dyspnea, claudication or chest pain. Fifty-six subjects between the ages of 20 and 29, 71 between 30 and 39, 61 between 40 and 49, and 25 between the ages of 50 and 55 were studied. It has been shown that one of the best criteria of fitness is the maximum oxygen intake, and in this study the means of all four age groups varied less than one ml. per kg. per minute. The 20-29 age group had a mean oxygen intake of 32.1 ml/kg/min; the 50-55 age group, 32.9 ml/kg/minute. By comparison, a study by Robinson in 1938 reported mean oxygen intakes of 47 ml/kg/min for the 20-29 age group, and 39 ml/kg/min for the 50-55 age group, reflecting the expected decline with advancing age. Naughton's subjects showed a low intake at an early time in life, and they stayed that way. Considering the wide age range covered, the tests showed remarkable similarity in exercise tolerance—and it was rather poor. Several factors were, however, clearly identifiable as contributing to this already poor showing. These were obesity, smoking, and lack of adequate rest. That these poor performances can be improved by regular physical exercise and general measures of rational hygiene is the obviously optimistic corollary.

**Reviewer's Note:** A glimpse at the unfortunate state of our health. Considering how much we drive and how little we walk, the abundance of our food, and our social dependence upon alcohol and tobacco, one wonders how long we can survive prosperity.

Assessment of Physical Performance of Middle-Aged American Men. John Naughton. *Medical Times*, 95: 220-227, (February) 1967.

## RECENT PUBLICATIONS

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## *Cardiac Arrest Following Intravenous Administration of Diphenylhydantoin*

Mike Keeran, M.D.

**I**NTRAVENOUS diphenylhydantoin (Dilantin) has been used rather frequently in the treatment of cardiac arrhythmias that are related to digitalis intoxication. This drug has a wide range of safety and is comparatively free of hazard to patients. This case report concerns a patient who died following the intravenous administration of a relatively small amount of Dilantin to correct an episode of paroxysmal auricular tachycardia that was probably precipitated by digitalis intoxication.

### CASE REPORT

This 75-year-old white grandmother and widow had been in good health until one year before admission when she developed peculiar behavior. Two months prior to admission she was admitted to a Colorado hospital for psychiatric care. Physical examination and studies performed prior to the institution of psychiatric treatment were not remarkable except for overt psychosis and the finding of two stones in the gallbladder following oral cholecystogram. She

was treated with electroshock and chlorpromazine (Thorazine). Neither had any observable beneficial effect on the course of her psychosis. Shortly after Thorazine medication was instituted and about six weeks before admission, she became jaundiced. While at another hospital it was discovered that the serum bilirubin was recorded at levels as high as 25 mgs%. The jaundice was initially attributed to the Thorazine. However, four weeks after Thorazine was discontinued she was still jaundiced. A Rose Bengal I-131 test was performed and none of the dye reached the small intestine.

Four days before being transferred to our care she ceased taking food orally and was fed by nasogastric tube. Twenty years earlier she had a hysterectomy. Two years before she had a "fibrous, non-malignant tumor" removed.

On admission physical examination revealed a thin, disoriented, white lady who was acutely and chronically ill. The temperature was normal. The sclerae were icteric and the skin was deeply jaundiced. There were no spider hemangioma. The blood pressure was 128/70 mm Hg with a pulse rate of 86 per minute which was regular. No murmurs were heard. The abdomen

From the Department of Medicine of the University of Oklahoma Medical Center, Oklahoma City, Oklahoma, and the Medical Service of the Central State Griffin Memorial Hospital, Norman, Oklahoma.

was distended and generally tender. The bowel sounds were decreased in frequency and high-pitched. Pelvic examination was not remarkable. The stool was guaiac negative. There was no peripheral edema. The patient was disoriented but the remainder of the neurological examination was within normal limits.

The hemoglobin was 12 gms% with a white blood count of 20,800. There were 91 per cent neutrophils. The total bilirubin was 19.2 mgs% with 11.9 mgs% direct. The serum cholesterol was 790 mgs%. The alkaline phosphatase was 28.8 Bodansky units. The SGOT was 327 units with an LDH of 860 units. Urine urobilinogen was elevated to 1:400 dilutions and urine bilirubin was strongly positive. The fasting blood sugar was 232 mgs% and the blood urea nitrogen was 84 mgs%. Calcium, phosphorous, total serum proteins and serum electrolytes were normal.

It was felt that the patient had obstructive jaundice secondary to cholelithiasis. However, the relatives refused to permit surgical intervention. The patient later developed signs of sepsis and peritonitis which were treated with antibiotics and fluids intravenously. She also developed signs of congestive heart failure with pulmonary râles and pitting edema. She was digitalized and then maintained on Digoxin (Lanoxin) 0.5 mgs intramuscularly daily. An initial electrocardiogram was interpreted as sinus tachycardia. While in the hospital she developed a pulse rate of 170 per minute. An electrocardiogram was then interpreted as showing evidence of paroxysmal auricular tachycardia, possibly due to digitalis intoxication (figure 1). Subsequently, 100 mgs Dilantin was administered intravenously. Her cardiac rate promptly converted to a normal sinus rhythm for a short time before being followed by asystole. She could not be revived by prompt resuscitation methods. A post-mortem examination was not performed.

#### SUMMARY

This case is reported to demonstrate that even a "safe" drug, Dilantin, may under some circumstances have adverse effects on cardiac activity. While it is impossible to

attribute the episode of asystole directly to Dilantin in such a critically ill patient, the fact that these electrophysiological events were recorded during its administration at least incriminated it as being related to the terminal event. In addition, this suspicion is supported by an earlier case report<sup>5</sup> of

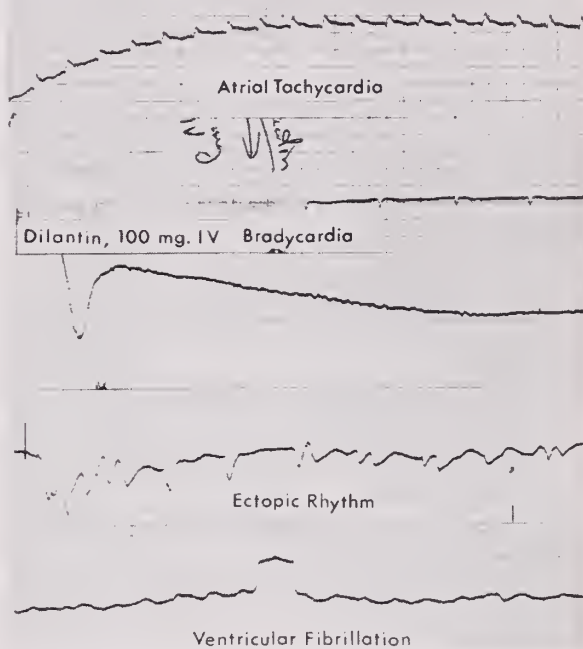


Figure 1. Ventricular asystole occurred during the administration of 100 mgs Dilantin intravenously. Cardiac rhythm was restored temporarily with resuscitation, but was followed shortly by ventricular fibrillation and death.

fatal ventricular fibrillation following Dilantin administration. Many of the arrhythmias treated with this pharmacological preparation have remitted within seconds of its injection. Thus far, Dilantin has been administered intravenously for the treatment of digitalis intoxication with few reports of serious side effects. However, the preceding case suggests that such a free and uninhibited use of this medication may not be warranted. □

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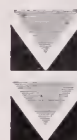
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## ANNUAL MEETING SETS RECORD

A total of 846 physicians registered and participated in the 61st Annual Meeting of the OSMA held in the Tulsa Assembly Center May 11th-13th. An additional 613 other guests, physicians' wives and exhibit personnel brought the total attendance to a record 1,459.

Maxwell A. Johnson, M.D., President of the OSMA, stated, "I feel that this has been one of our most successful meetings. The participation and attendance of the physicians at our business meetings, scientific sessions and social events was excellent."

### Business

The OSMA House of Delegates met Friday and Saturday, May 12th and 13th, to consider the six council reports, the treasurer's report, the reports from the President and the Board of Trustees and to conduct election of new officers.

Scott Hendren, M.D., Oklahoma City internist, was named President-elect of the association and will become its 63rd president when he takes office in May of 1968.

E. H. Shuller, M.D., McAlester, was elected Vice-President to serve with Maxwell A. Johnson, M.D., during the coming year.

In an address to the delegates Saturday morning, the President of the American Medical Association, Charles L. Hudson, M.D., Cleveland, Ohio, said that the Medicare program can be considered "partly a success and partly a failure" in America.

He urged all Oklahoma physicians to use the direct billing method for patients treated under Medicare. In an interview aired by KOTV-TV in Tulsa he stated that the assignment billing procedure causes a break in the doctor-patient relationship through the imposition of a third party.

In his talk he pointed out that Medicare has created an attitude in some persons that while they are entitled to health care, they are not

necessarily responsible to paying for it.

Doctor Hudson acknowledged there had been considerable public outcry over doctors sending bills directly to Medicare patients, but urged physicians to continue doing so. Nationwide, he said, about 47 per cent of physicians bill directly, while 53 per cent use the assignment method.

In certain local areas, use of assignment ranges from none up to 80 per cent, he added.

### Scientific

Sixty medical experts from around the United States presented various portions of the scientific program in the 13 specialty section meetings.

A seminar on the legal aspects of medicine, known as the "Malpractice University," drew nearly 200 physicians Thursday afternoon, May 11th. Three prominent attorneys specializing in medical defense addressed the crowd. Henry B. Alsbrook, Jr., New Orleans, John M. McPherrren, Oklahoma City, and R. Crawford Morris, Cleveland, Ohio, teamed up to present the four-hour program.

Morris told the physicians that only about five per cent of all malpractice claims are justified "... and I urge settling those."

He went on to say that the defense has a strong point in the other 95 per cent of the cases. "Ordinary good care is the basic test that defends against the charge of negligence," he said.

He emphasized that, "an honest mistake of judgment is not negligence unless you have been negligent in not getting enough information on which to base your judgment."

Where there are several schools of thought on what is proper diagnosis or treatment, the physician's position is defensible if he has followed a respected opinion, even if it is in the minority.

One of the major causes of malpractice actions today is lack of

informed consent and Mr. Morris personally urged doctors to tell their patients everything, the risks and the reasons for treatment procedures.

"Not just because this protects you best against negligence charges, but because I believe properly prepared patients overcome the risks better even if there is a bad result."

He declared that every medical procedure has some kind of risk in it, "... but so does everything in life. Just like the practice of medicine, everything anyone does has potential goals and a percentage of risks. If you apply the Golden Rule to your medical practice it will really help."

John M. McPherrren told the doctors, "There is no way to avoid being involved in a malpractice suit. The most perfect doctor has no guarantee against it." He went on to point out that doctors have nothing to fear from juries in Oklahoma.

He closed by saying, "... I wish my profession had as beautiful an image as yours. You are still the Man in White, driving a buggy through the rain, trying to help. And that's the most precious thing you've got."

### Social

The three main social events of the Annual Meeting, the Wine Festival, the Gaslight Party, and the President's Inaugural Dinner-Dance, could best be described as resounding successes.

Over 400 physicians and their wives attended the Gaslight Party in the Crystal Ballroom of the Mayo Hotel Friday night, May 12th. A psychedelic light show, go-go girls and swing music by the Buddy Billen Band provided the entertainment.

Saturday's annual Dinner - Dance, which attracted over 300, featured entertainment by Eddie Peabody, "The Banjo King." □





The "Stage Door Canteen" served ham and corned beef sandwiches, beer and soft drinks to the exhibitors and physicians. Over 1,000 people attended the "Canteen" Friday and Saturday.

Fourteen Past-Presidents of the OSMA attended an annual breakfast Saturday, May 13th. Pictured, left to right, back row are: L. Chester McHenry, M.D., Oklahoma City; John Flack Burton, M.D., Oklahoma City; T. H. McCarley, M.D., McAlester; Everett S. Lain, M.D., Oklahoma City; Harlan Thomas, M.D., Tulsa; Henry K. Speed, M.D., Sayre; Maxwell A. Johnson, M.D., Tulsa, OSMA President-Elect; R. Q. Goodwin, M.D., Oklahoma City; Ennis M. Gullatt, M.D., Ada, OSMA President; and Walter E. Brown, M.D., Tulsa.

Seen in the front, left to right, are Rex Kenyon, M.D., Oklahoma City; Joe L. Duer, M.D., Woodward; Clinton Gallaher, M.D., Shawnee; Paul B. Champlin, M.D., Enid; John E. McDonald, M.D., Tulsa; and George H. Garrison, M.D., Oklahoma City.



Even during the section meetings the "traffic" in the Exhibit Hall was enough to keep the exhibitors busy.



Fifty-two technical-medical exhibits were set up and well attended by state physicians.



The non-medical technical exhibits were well received and attended. Many people especially enjoyed the "tone-dial" telephone display.





OMPAC received a big push from the ladies of the auxiliary. Left to right, Mrs. George H. Miller, Mrs. Worth M. Gross, Mrs. John A. Coates and Mrs. Maxwell A. Johnson "manned" the OMPAC booth in the exhibit area.

The OMPAC Hospitality Room (below) was a popular place — probably due to Mrs. Barbara Stacy's piano playing. Doctor Stacy is seen in the background.



The scientific exhibit section received continuous attention by the physicians throughout the three-day meeting.

# Proceedings of the 61st Annual Session of the House of Delegates of the Oklahoma State Medical Association

## OPENING SESSION

The 61st Annual Session of the House of Delegates of the Oklahoma State Medical Association was called to order at 9:15 a.m. by C. M. Hodgson, M.D., Speaker of the House of Delegates, on Friday, May 12th, 1967 in the Tulsa Assembly Center, Tulsa, Oklahoma.

Invocation was given by David Fried, M.D., Hollis, Oklahoma.

The Chairman of the Credentials Committee, C. Riley Strong, M.D., declared a quorum present.

The Speaker announced the following working committees had been appointed to help with the conduct of the House of Delegates:

### *Credentials Committee*

C. Riley Strong, M.D., Chairman  
R. W. Loy, M.D.  
Frank W. Clark, M.D.

### *Sergeants-at-Arms*

Harold Stout, M.D., Chairman  
David Carson, M.D.

### *Tellers*

Paul H. Rempel, M.D., Chairman  
Wayne A. Starkey, M.D.  
J. D. Powell, M.D.

### *Parliamentarian*

Roger Reid, M.D., Vice-Speaker of the House of Delegates

### *Reference Committee No. I*

Edward K. Norfleet, M.D., Chairman  
John B. Miles, M.D.  
Tom S. Gafford, M.D.  
John W. Drake, M.D.  
R. W. Morton, M.D.  
Duane E. Brothers, M.D.  
Recording Secretary: Don Blair

### *Reference Committee No. II*

Mark R. Johnson, M.D., Chairman  
Richard D. Stansberry, M.D.  
C. A. Traverse, M.D.  
Donald L. Brawner, M.D.  
David C. Ramsay, M.D.  
David Fried, M.D.

Recording Secretary: Dwight Whelan

### *Reference Committee No. III*

Herbert S. Orr, M.D., Chairman  
John R. Reid, M.D.  
John R. Smithson, M.D.  
R. Q. Goodwin, M.D.

E. H. Shuller, M.D.

R. G. Obermiller, M.D.

Robert G. White, M.D.

Recording Secretary: Martina Doyle

### *Reference Committee No. IV*

Mark D. Holcomb, M.D., Chairman

Joe E. Tyler, M.D.

William D. Bolene, M.D.

James Wilson, M.D.

Galen P. Robbins, M.D.

A. T. Baker, M.D.

Recording Secretary: Dixie Griffith

As the next order of business, the following guests were introduced and brought greetings to the House of Delegates:

Mrs. Richard A. Clay, Oklahoma City, Retiring President of the Woman's Auxiliary to the Oklahoma State Medical Association.

Mrs. George H. Miller, Tulsa, Incoming President of the Woman's Auxiliary to the Oklahoma State Medical Association.

Mrs. Charles T. Wilkinson, Wake Forest, North Carolina, President of the Southern Medical Association Auxiliary.

Mrs. Clare W. Johnson, Phoenix, Arizona, Western Regional Vice-President of the American Medical Association Auxiliary.

A. B. Colyar, M.D., Oklahoma City, Commissioner of Health.

President Ennis M. Gullatt introduced James L. Dennis, M.D., Dean of the Oklahoma University School of Medicine and presented Doctor Dennis with an American Medical Association Education and Research Foundation check in the amount of \$8,332.20.

After expressing appreciation to the AMA for its contribution, Dean Dennis reported briefly on the progress of the Medical Center's new Basic Science Building which is scheduled for completion in 1969. He also discussed the innovations which are being made in the medical school's curriculum and stated that next year the school will accept 109 students in the Freshman Class—

the largest class the school has ever had.

Next, the Speaker introduced A. M. Edwards, Representative of the Field Service Division of the American Medical Association.

Doctor Hodgson welcomed all members and guests to the 61st Annual Session and made the following remarks:

"The first birthday of the Medicare program is at hand. Acceptance of this venture has been as varied as the forms required to meet its fulfillment. There has been a sharp difference of opinion in this government care of the aged. This is as it should be. The finding of the truth is always difficult. The medical profession seeks and accepts the truth when it is established.

"We are living in the economic era of John Maynard Keynes, the Englishman who advocated abandonment of the gold standard, deficit financing, welfare programs, public works, and public debt as a means to redistribute wealth. Such an economic system provokes controversy among men of good will.

"There are new developments in the government medical-welfare-security complex. The pendulum will swing far into this field until the truth is made available to all concerned. Recent magazine articles with such titles as, "Is the U.S. Hospital Fit to be Sick In?," "The Big Change in Medicine," and "Medicare: Headache or Cure-all?" are indicative of the pendulum swinging.

"We are aware of the problems affecting the medical field. There are the rising costs, the shortages in skilled personnel and teaching facilities, and many other allied problems. However, in the face of this adverse picture, the life expectancy of our citizens continues to rise, and those who try to help themselves appear to do well regardless

Continued on page 344





# The Beverly Hills Hospital The Beverly Hills Clinic

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### PSYCHIATRY

Joseph L. Knapp, M.D.  
Jackson H. Speegle, M.D.  
Fred H. Jordan, M.D.  
Joseph H. Lindsay, M.D.  
John T. Holbrook, M.D.

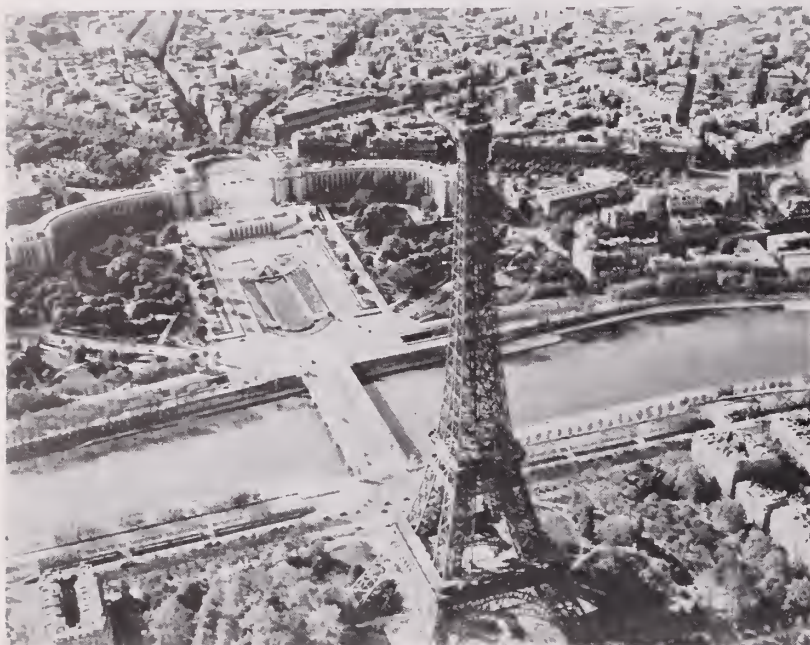
### PSYCHOLOGY

Traudl E. Jordan-Diener, Ph.D.  
W. R. Garretson, M.A.  
R. A. Mitchell, M.S.

**1353 N. Westmoreland ★ Dallas 11, Texas ★ FE 1-8331**



## Physicians Enroll in OSMA European Tour



One of the historic highlights on the OSMA Tour will be a visit to the Eiffel Tower and Palais de Chaillot in Paris.

Excellent reaction to the Oklahoma State Medical Association's 1968 European Tour has been reported following the jaunt's first major announcement during the recent OSMA annual meeting.

A surprising number of physicians and their families have already made reservations—though the group is not scheduled to depart until July of next year—and scores of others expressed interest at the annual meeting exhibit in Tulsa.

Two options are offered under the plan.

First, a basic 16-day tour includes stops at London, Paris, Lucerne and Rome. Featured are first-class hotel accommodations, two meals a day, guided sightseeing trips on air-conditioned motor coaches, transatlantic and inter-Europe transportation by major airlines. The basic tour is only \$800 per person from Oklahoma City, and \$791.50 from Tulsa.

A seven-day extension to include visits to Florence, Venice and Berlin is also offered at an additional price of \$149 per person.

The tour will depart on July 17th, with the 16-day plan returning on August 1st and the 23-day plan on August 7th, 1968.

Efforts are being made to arrange lectures by foreign physicians and, on alternating days, tours of foreign hospitals, in order to provide certain business expense deductions for participating physicians.

A colorful brochure on the OSMA European Tour may be obtained by writing to Mr. Don Blair, OSMA Executive Secretary, P.O. Box 18696, Oklahoma City. □

## OMPAC Plans Fall Conference

"One hundred and fifty members ago OMPAC was the fourth ranking political action committee in the country, and we recently added 68 new members at the OSMA annual meeting in Tulsa to give us a total membership in excess of 625," Rex Kenyon, M.D., Chairman of the OMPAC Board of Directors, reported.

"I am confident that our national rating is even higher now," Kenyon

said. "Oklahoma physicians are beginning to show a real interest in OMPAC and are actively backing it."

OMPAC plans for the future include a "Conference on Political Education" to be held in Oklahoma City this fall. Veteran political observers and politicians with national standing are being invited to participate in the meeting.

"We intend to give the physicians a short course in politics," Kenyon said. "I have commitments from several top flight people to come to Oklahoma as speakers and panel members for the conference."

The conference is still in the planning stage and the official date has not been set. "As soon as the plans are firm, we will give the conference the widest possible publicity," Kenyon stated. □

## President Named For County Unit of OHA

Herbert Kent, M.D., Oklahoma City physiatrist, has been elected president of the Oklahoma County Unit of the Oklahoma Heart Association for 1967-68. □

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## AAOS to Meet In Oklahoma City



DON H. O'DONOGHUE, M.D.

National authorities in the field of sports medicine will be lecturers at a special postgraduate course of the American Academy of Orthopaedic Surgeons, August 14th, 15th, 16th, at the Skirvin Hotel, Oklahoma City, Oklahoma.

Invited to attend the three-day course of lectures and audio-visual demonstrations are orthopaedic surgeons, general physicians, high school and college team physicians, and others with a medical interest in the care of the athlete. It is to be sponsored by the Academy's Committee on Sports Medicine in cooperation with the United States Olympic Medical and Training Services Committee and the Department of Orthopaedic and Fracture Surgery, University of Oklahoma School of Medicine, Oklahoma City.

Chairman of the course is Doctor Don H. O'Donoghue, Chairman of the Orthopaedic and Fracture Surgery Department at the medical school. The faculty is composed of distinguished lecturers from 14 states and Canada as well as members of the university staff.

Lecturers will discuss in depth topics including altitude and other medical problems related to the 1968 Summer Olympic Games in Mexico City, the adolescent athlete, com-

petitive swimming, the anthropology and physiology of endurance runners, mechanics of running, the use and misuse of drugs in athletics, and effects of vigorous athletic activity on women.

A symposium on the arm in such throwing sports as baseball, javelin, shot put, and discus will feature talks on shoulder joint and muscle injuries, elbow injuries and the aging pitcher. A special day-long forum will be devoted to diagnosis and treatment of knee injuries.

Members of the American Academy of Orthopaedic Surgeons' Committee on Sports Medicine speaking at the course will be its Chairman, Jack C. Hughston, M.D., Columbus, Georgia, orthopaedic surgeon and orthopaedic consultant to Auburn University, Auburn, Alabama; Don H. O'Donoghue, M.D., Fred L. Allman, Jr., M.D., orthopaedic consultant,

University of Georgia, and President-Elect, American College of Sports Medicine; Martin E. Blazina, M.D., Los Angeles, Assistant Professor of Surgery, UCLA; Bruce J. Brewer, M.D., Associate Clinical Professor of Orthopaedic Surgery, Marquette University School of Medicine, Milwaukee, Wisconsin; Joe W. King, M.D., head, Division of Orthopaedic Surgery, Baylor University College of Medicine, Houston, Texas; Edmond J. McDonnell, M.D., Associate Professor, Department of Orthopaedic Surgery, Johns Hopkins University School of Medicine, Baltimore; James A. Nicholas, M.D., Assistant Professor of Clinical Surgery, Cornell University Medical College, New York; Fred C. Reynolds, M.D., Professor, Orthopaedic Surgery, Washington University School of Medicine, St. Louis; and Donald B. Slocum, M.D., Eugene, Oregon, orthopaedic surgeon and chairman of the AMA Committee on the Medical Aspects of Sports. □

## Enid High School Senior Wins Citation



Thomas Joseph Morgan, 18, Enid, Oklahoma, high school senior, was presented one of the AMA's "award of merit" citations by Dwight L. Wilbur, M.D., a member of the AMA Board of Trustees and master of ceremonies at the Health Awards Banquet during the 18th International Science Fair May 10th-13th in San Francisco. Thomas won for his exhibit on "Through Open-Heart Surgery" from among 425 finalists from 229 regional science fairs. □



## Proceedings . . .

Continued from page 340

of their economic standing. The final evaluation of the Keynes theory, as developed in this country, is yet to be made. There are some indications of a change in the climate of public opinion.

"The interest shown by the physicians of this state in the problems facing our profession is most gratifying. There was only one refusal on committee appointments made by the speaker. The chair wishes to thank the delegates for their cooperation in the conduct of the association's business. Every effort will be made to keep this interest growing. Physicians are reasonable people, and in reason there is unity. In unity there is strength."

The Speaker then asked the pleasure of the House of Delegates regarding the reading of the minutes of the last meeting.

*Thomas C. Points, M.D., moved to dispense with reading of the minutes, and that they be approved as published in the OSMA Journal. David Fried, M.D., seconded the motion and it carried.*

The Speaker made the following announcements:

1. The 62nd Annual Meeting will be held in Oklahoma City, Skirvin Hotel Convention Center, May 16th-19th, 1968.

2. We are hopeful that the House will complete the Opening Session by noon, to permit delegates to attend the free "Stage Door Canteen" luncheon and the afternoon scientific programs.

3. Reference Committees will meet at 4:00 p.m. this afternoon here in the Assembly Center.

The Speaker then announced there would be a ten minute recess to allow Delegates from Trustee Districts I through V to caucus. He then read the counties in each district and the names of the incumbent Trustee and Alternate Trustee as follows:

DISTRICT I: (Craig, Delaware,

Mayes, Nowata, Ottawa, Rogers, and Washington Counties)

Trustee Incumbent: *H. E. Denyer, M.D.*, Bartlesville

Alternate Trustee Incumbent: *Glenn W. Cosby, M.D.*, Miami

DISTRICT II: (Kay, Noble, Osage, Pawnee and Payne Counties)

Trustee Incumbent: *George B. Gathers, M.D.*, Stillwater

Alternate Trustee Incumbent: *A. M. Brown, M.D.*, Perry

DISTRICT III: (Garfield, Grant, Kingfisher, and Logan Counties)

Trustee Incumbent: *Avery B. Wight, M.D.*, Enid

Alternate Incumbent: *Albert W. Brownlee, M.D.*, Guthrie

DISTRICT IV: (Alfalfa, Beaver, Cimarron, Dewey, Ellis, Harper, Major, Texas, Woods, and Woodward Counties)

Trustee Incumbent: *Ed L. Calhoun, M.D.*, Beaver

Alternate Trustee: *John X. Blender, M.D.*, Cherokee

DISTRICT V: (Beckham, Blaine, Canadian, Custer and Roger Mills Counties)

Trustee Incumbent: *C. Riley Strong, M.D.*, El Reno

Alternate Trustee Incumbent: *Ross Deputy, M.D.*, Clinton

The House recessed at 9:55 a.m. and reconvened at 10:10 a.m.

The Speaker asked if any Trustee wished to give a report from his Trustee District and there was no response.

The Speaker introduced Mrs. Irene Rickley, President of the Oklahoma State Medical Assistant's Society, and expressed the House of Delegates' appreciation for the society's hospitality in serving coffee throughout the meeting.

The next order of business on the agenda was the nomination of officers. The Speaker declared the House open for nominations for the office of President-Elect (one year term of office).

*W. C. McCurdy, M.D.*, Purcell, was nominated by *E. K. Norfleet, M.D.*, Norman. *Robert R. Sullivan, M.D.*, Norman seconded the nomination.

*Scott Hendren, M.D.*, Oklahoma City, was nominated by *Rex E. Kenyon, M.D.*, Oklahoma City. *Orange*

*M. Welborn, M.D.*, Ada, seconded the nomination.

The Speaker declared nominations closed.

Nominations for the office of Vice-President were declared open (one year term of office).

*E. H. Shuller, M.D.*, McAlester, was nominated by *George M. Brown, Jr., M.D.*, McAlester. *Thomas C. Points, M.D.*, Oklahoma City, seconded the nomination.

The Speaker declared nominations closed.

Nominations were declared open for the office of AMA Delegate, Position No. 1 (two year term of office).

*Malcom E. Phelps, M.D.*, El Reno, was nominated by *Edgar W. Young, Jr., M.D.*, El Reno. *Thomas W. Taylor, M.D.*, Tulsa seconded the nomination.

*B. C. Chatham, M.D.*, Chickasha, was nominated by *Charles R. Gibson, M.D.*, Chickasha. The nomination was duly seconded.

The Speaker declared nominations closed.

The Speaker declared nominations open for Alternate Delegate to the AMA, Position No. 1 (two year term of office).

*Thomas C. Points, M.D.*, Oklahoma City, was nominated by *Marvin K. Margo, M.D.*, Oklahoma City. The nomination was duly seconded.

*William A. Matthey, M.D.*, Lawton, was nominated by *Paul N. Vann, M.D.*, Lawton. The nomination was duly seconded.

The Speaker declared nominations closed.

The Speaker declared nominations open for Delegate to the AMA, Position No. 2 (two year term of office).

*Harlan Thomas, M.D.*, Tulsa, was nominated by *Donald L. Brawner, M.D.*, Tulsa. *H. E. Denyer, M.D.*, Bartlesville, seconded the nomination.

*Bob J. Rutledge, M.D.*, Oklahoma City, was nominated by *Lloyd A. Owens, M.D.*, Oklahoma City. *Clarence P. Taylor, Jr., M.D.*, Ada, seconded the nomination.

The Speaker declared nominations closed.



The speaker declared nominations open for the office of Alternate Delegate to the AMA, Position No. 2 (two year term of office).

Ennis M. Gullatt, M.D., Ada, was nominated by David C. Ramsay, M.D., Ada. The nomination was duly seconded.

The Speaker declared nominations closed.

The Speaker declared nominations open for the office of Trustee and Alternate Trustee for District I (three year term of office).

H. E. Denyer, M.D., Bartlesville, was nominated *Trustee* and Glenn W. Cosby, M.D., Miami, was nominated *Alternate Trustee* by Jess D. Green, Jr., M.D., Bartlesville.

The Speaker declared nominations closed.

The Speaker declared nominations open for the office of Trustee and Alternate Trustee for District II (three year term of office).

George B. Gathers, M.D., Stillwater, was nominated *Trustee* and Thomas C. Glasscock, M.D., Ponca City was nominated *Alternate Trustee*, by George R. Smith, Jr., M.D., Cushing.

The Speaker declared nominations closed.

The Speaker declared nominations open for the office of Trustee and Alternate Trustee for District III (three year term of office).

Avery B. Wight, M.D., Enid, was nominated *Trustee* and Webber W. Merrell, M.D., Guthrie, was nominated *Alternate Trustee* by James S. Petty, M.D., Guthrie.

The Speaker declared nominations closed.

The Speaker declared nominations open for the office of Trustee and Alternate Trustee for District IV (three year term of office).

Ed L. Calhoon, M.D., Beaver, was nominated *Trustee* and John X. Blender, M.D., Cherokee, was nominated *Alternate Trustee* by Joe L. Duer, M.D., Woodward.

The Speaker declared nominations closed.

The Speaker declared nominations open for the office of Trustee and Alternate Trustee for District V (three year term of office).

C. Riley Strong, M.D., El Reno, was nominated *Trustee* and Ross Deputy, M.D., Clinton, was nominated *Alternate Trustee* by Henry K. Speed, M.D., Sayre.

The Speaker declared all nominations closed.

The next item on the agenda was the *Report of the President*, which was read by Doctor Ennis M. Gullatt. The report was referred to *Reference Committee No. I*. (A copy of the report is attached and made a part of these minutes.)

Samuel R. Turner, M.D., Chairman of the Board of Trustees, summarized the *Board of Trustees Report* and read its *Supplemental Report*. The reports were referred to *Reference Committee No. I*. Copies of the reports are attached and made a part of these minutes.)

Bob J. Rutledge, M.D., Secretary-Treasurer, reviewed the *Treasurer's Report* and it was referred to *Reference Committee No. I*. (A copy of the report is attached and made a part of these minutes.)

The Speaker advised the House of Delegates that the following Council and Committee reports are received and referred to the designated Reference Committees:

*Council on Insurance*, C. E. Woodard, M.D., Chairman, (referred to *Reference Committee No. IV*).

*Council on Professional and Inter-vocational Relations*, Orange M. Welborn, M.D., Chairman (referred to *Reference Committee No. II*).

*Council on Professional Education*, Kelly M. West, M.D., Chairman (referred to *Reference Committee No. I*).

*Financial Aid to Education Committee*, Rex Kenyon, M.D., Chairman (referred to *Reference Committee No. I*).

*Grievance Committee*, Clinton Galaher, M.D., Chairman (referred to *Reference Committee No. I*).

*Council on Public Health*, Hayden H. Donahue, M.D., Chairman (referred to *Reference Committee No. IV*).

*Council on Public Policy*, Kieffer D. Davis, M.D., Chairman (referred to *Reference Committee No. II*).

*Constitution and Bylaws Committee*, C. M. Hodgson, M.D., Chairman (referred to *Reference Committee No. I*).

*Council on Socio-Economic Activities*, B. C. Chatham, M.D., Chairman (referred to *Reference Committee No. III*).

The Speaker announced Resolutions No. 1 and 2 would be introduced by "Title" and "Resolve," referred to reference committees, as indicated, and will be acted upon in the closing session of the House of Delegates.

*Resolution No. 1*, entitled "Balanced Dues Structure," was read by Paul H. Remple, M.D.

*Resolution No. 2*, entitled "Annual AMA Education Conference for State Legislators," was read by Samuel R. Turner, M.D.

The speaker then called on Roger Reid, M.D., to read the *Necrology Report*. (A copy of the report is attached and made a part of these minutes.)

C. Riley Strong, M.D., moved to adjourn the Opening Session of the House of Delegates. The motion was duly seconded and carried.

The meeting adjourned at 11:35 a.m.

#### NECROLOGY REPORT

George L. Borecky, M.D. .... Oklahoma City  
J. E. Brookshire, M.D. .... Tulsa  
Joseph E. Cochrane, M.D. .... Tulsa  
Edgar F. Harbison, M.D. .... Oklahoma City  
B. H. Humphrey, M.D. .... Sperry  
John Leslie LeHew, Sr., M.D. .... Guthrie  
Elias Margo, M.D. .... Oklahoma City  
Philip M. McNeill, M.D. .... Oklahoma City  
William H. Newlin, M.D. .... Broken Arrow  
I. B. Oldham, Jr., M.D. .... Muskogee  
D. D. Paulus, M.D. .... Oklahoma City  
Augustin H. Shi, M.D. .... Stratford  
William E. Strecker, M.D. .... Oklahoma City  
Robert T. Sturm, M.D. .... Oklahoma City  
F. L. Underwood, M.D. .... Tulsa  
W. W. Williams, M.D. .... Idabel

## CLOSING SESSION

The Closing Session of the 61st Annual Session of the House of Delegates was called to order by the Speaker, C. M. Hodgson, M.D., at 9:15 a.m., May 13th, 1967, in the Tulsa Assembly Center, Tulsa.

C. Riley Strong, M.D., Chairman of the Credential Committee announced a quorum present.

The Speaker introduced William J. McDaniel, Oklahoma City, President of the Oklahoma Chapter, Student American Medical Association, who brought greetings to the House and expressed the Chapter's appreciation to Thomas C. Points, M.D., for acting as the SAMA adviser; the Oklahoma Academy of General Practice for providing funds for the SAMA representatives to attend their national convention, OSMA for its annual banquet; and also to Mr. Don Blair for his cooperation and assistance throughout the academic year.

Mr. R. G. Swenson, Executive Assistant of the Kansas Medical Society, was introduced by the Speaker.

The first item of business to be considered in the Closing Session was the Report of Reference Committee No. I.

### REFERENCE COMMITTEE NO. 1

Presented by Edward K. Norfleet, M.D., Chairman.

Mr. Speaker and Members of the House of Delegates:

Your reference committee gave careful consideration to the items referred to it and makes the following report:

*Item 1. Report of the Board of Trustees.* The reference committee recommends approval of the Report of the Board of Trustees.

*Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.* (A copy of the report is attached and made a part of these minutes.)

*Item 2. Supplemental Report of the Board of Trustees.* The reference committee recommends approval of paragraphs 1 through 7 of the supplemental report.

Regarding paragraph 7, however, your committee recommends an ad-

ditional commitment to assist the medical school in acquiring maximum Federal loans funds, to the extent of authorizing the Board of Trustees to draw up to \$5,000 from the special assessment fund of the association, if such action is necessary for the school to meet the \$25,000 quota.

The reference committee understands the Board's sentiment in regard to urging the AMA to require mandatory membership, but it does not feel that the Board's recommendation contained in paragraph 8 of the supplemental report can be successfully implemented at the national level. Therefore, your committee recommends disapproval of paragraph 8.

*Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.* (A copy of the amended report is attached and made a part of these minutes.)

*Item 3. Resolution No. 1.* The reference committee recommends approval of Resolution No. 1, with the following amendment:

Amend paragraph 2 of page 2 by inserting a period after the word "dues" and striking the balance of the line.

*Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.* (A copy of Resolution No. 1, as amended, is attached and made a part of these minutes.)

*Item 4. Report of the Constitution and Bylaws Committee.* The reference committee recommends approval of the committee's report.

*Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.* (A copy of the report is attached and made a part of these minutes.)

*Item 5. Report of the Council on Professional Education.* The reference committee recommends approval of the Report of the Council on Professional Education.

*Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.* (A copy of the report is attached and made a part of these minutes.)

*Item 6. Report of the Financial Aid to Education Committee.* The reference committee recommends approval of the Report of the Financial Aid to Education Committee.

*Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.* (A copy of the report is attached and made a part of these minutes.)

*Item 7. Report of the Secretary-Treasurer.* Your reference committee recommends the following amendment to the report:

Amend Recommendation No. 2, by adding the following paragraph:

"The long range planning committee shall conclude its study and prepare recommendations by September 1st, 1967, for presentation to the Board of Trustees."

*Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.* (A copy of the amended report is attached and made a part of these minutes.)

*Item 8. Report of the President.* The reference committee recommends approval of this report.

*Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.* (A copy of the report is attached and made a part of these minutes.)

*Item 9. Grievance Committee Report.* Your reference committee recommends approval of the Report of the Grievance Committee.

*Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.* (A copy of the report is attached and made a part of these minutes.)

*Item 10. Separation of Kingfisher County from the Garfield-Kingfisher County Medical Society.* Your reference committee takes note of an omission in the Supplemental Report of the Board of Trustees. At the annual meeting of the Board on May 11th, 1967, the Board approved a petition from the physicians of Kingfisher County stating their desire to withdraw from amalgamation with Garfield County. Since this petition requires action by the House of Delegates, your reference com-



mittee recommends the approval of the Kingfisher County petition.

*Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.*

*Mr. Speaker, I move the adoption of the report as a whole. The motion was seconded and carried.*

The next report to be considered was Reference Committee No. IV.

#### REFERENCE COMMITTEE NO. IV

Presented by Mark D. Holcomb, M.D., Chairman.

Mr. Speaker and Members of the House of Delegates:

Your reference committee gave careful consideration to the items referred to it and makes the following report:

*Item 1. Report of the Council on Public Health.* Your committee recommends the approval of this Council report.

*Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.* (A copy of the report is attached and made a part of these minutes.)

*Item 2. Report of the Council on Insurance.* Your committee recommends the approval of this Council report.

*Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.* (A copy of the report is attached and made a part of these minutes.)

*Mr. Speaker, I move the adoption of the report as a whole. The motion was seconded and carried.*

The next report to be considered was Report of Reference Committee No. II.

#### REFERENCE COMMITTEE NO. II

Presented by David C. Ramsay, M.D., Member.,

Mr. Speaker and Members of the House of Delegates:

Your reference committee gave careful consideration to the items referred to it and makes the following report:

*Item 1. Report of the Council on Professional and Intervocational Relations.* Your reference committee recommends the approval of this Council report with the following amendments:

1. Section II, page 5, line 8, after the word "recommendation," strike the remainder of the paragraph and add the words "but failed." (For more exact details, see Section II, page 13 of the Report of the Council on Public Policy.)

*Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.*

2. Section III, page 6, add the following additional recommendation:

"2. It is further recommended that a subcommittee be authorized for the purpose of receiving questions pertaining to professional relationships with osteopathy and osteopaths and to make recommendations concerning the disposition of such questions."

*Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.*

3. Section IV, page 6, at the end of the last sentence on the page, add "The Council feels it appropriate to mention that it recognizes the mounting shortage of trained nursing personnel for the providing of bedside nursing care."

4. Section IV, page 7, under Subsection D, strike paragraph 1 and substitute the following:

"In order to insure a greater number of individuals trained in the skills of bedside care, it is recommended that the scope and size of the Committee on Nursing be expanded."

*Mr. Speaker, I move the adoption of this section of the report. The motion was seconded and carried.* (An amended copy of the report is attached and made a part of these minutes.)

*Item 2. Report of the Council on Public Policy.* Your committee recommends approval of this report with the following amendments:

1. Section 1, page 8, substitute the following paragraph for recommendation No. 2:

"2. It is recommended that the Council on Public Policy continue to study the feasibility for conducting a major "Health Science Fair" in January of 1969, and that plans, descriptions, costs and financial mech-

anisms be presented to the House of Delegates for its judgment at the earliest opportunity."

*Mr. Speaker, I move the approval of this portion of the report. The motion was seconded and carried.*

2. Section II, page 17, after the first paragraph of Recommendation No. 1, add, "provided, further, that any policy or position so defined is subject to later review and modification by the Board of Trustees or the House of Delegates."

*Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.*

3. Section II, page 18, substitute recommendation No. 6 with the following:

"6. That this committee continue to work more closely with other organizations, including dentists, veterinarians, and the pharmaceutical association in the development and preparation of acceptable legislation."

*Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.*

4. Section II, page 17, substitute the following for Recommendation No. 2:

"2. During future legislative sessions, that OSMA continue to cooperate and co-sponsor the Legislative First Aid Station and the "Doctor of the Day" program with the Oklahoma Academy of General Practice, and that pharmaceutical manufacturers be requested to aid us in supplying the necessary pharmaceutical products. It is emphasized that the professional care rendered by physicians implementing this program is an extension of the same care rendered by the recipient's family physician."

*Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.*

5. Section II, page 19, add Recommendation No. 8, as follows:

"8. Nothing in this report is to be construed as suggesting a restraint of free discourse and the personal expression of opinion between a physician and his elected legislator."



*Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.*

6. Section III, page 2, substitute the following for Recommendation No. 1:

1. "It is recommended that the House of Delegates select and adopt design (B) as the official seal of the Oklahoma State Medical Association. Further, it is recommended that the Medical Heritage Committee assign color values to the various elements of the seal. Although the official seal is comprised of gray and black elements only, the assignment of unified color values will promote a wider application of the seal in a uniform pattern."

*Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried. (A copy of the amended report is attached and made a part of these minutes.)*

Item 3. Resolution No. 2. The committee recommends adoption of Resolution No. 2.

*Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried. (A copy of the resolution is attached and made a part of these minutes.)*

*Mr. Speaker, I move the adoption of the committee's report as a whole. The motion was seconded and carried.*

The next item on the agenda to be considered was Report of Reference Committee No. III.

#### REFERENCE COMMITTEE NO. III

Presented by Herbert S. Orr, M.D., Chairman.

*Mr. Speaker and Members of the House of Delegates:*

Your reference committee gave careful consideration to the items referred to it and makes the following report:

Item I. Report of the Council on Socio-Economic Activities.

Section I. (Health Economic Task Force):

A. Although your reference committee approves the report as presented, it requests the action of the

House on whether or not the funds should be taken from savings or current surplus.

*Mr. Speaker, I request action on this portion of the report.*

Edward K. Norfleet, M.D., moved that the House of Delegates go on record as authorizing the expenditure of association surplus funds until they are depleted, and to withdraw funds from the association's savings account for the balance of the money needed to implement the program. B. C. Chatham, M.D., seconded the motion.

Homer D. Hardy, M.D., moved to amend Doctor Norfleet's motion by stipulating that the OSMA's proportionate share of the program should not exceed \$18,000 per year. Harlan Thomas, M.D., seconded the motion and it carried.

A motion was made to amend the amendment to read, "the OSMA's proportionate share should not exceed \$18,000 the first year and \$9,000 for the next two succeeding years," but the Speaker ruled the motion out of order.

*Mr. Speaker, I move the adoption of this portion of the report as amended. The motion was voted upon and carried.*

Doctor Turner pointed out that the House of Delegates approved the Treasurer's Report which recommends that the association's Long-Range Planning Committee study the advisability of depleting the association's savings accounts for non-capital expenditure; since this action is approved, he asked, will the Task Force be able to spend this money without the consideration of the Long-Range Planning Committee? He was given an affirmative answer since it was felt that the program should be implemented immediately.

B. Your reference committee recommends that other insurance plans which provide comparable coverage and cost be readily endorsed.

*Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.*

The Speaker interrupted the report of Reference Committee No. III to introduce Charles L. Hudson, M.D.,

Cleveland, Ohio, President of the American Medical Association.

Doctor Hudson brought greetings to the House of Delegates and then discussed the implied contract between a physician and his patient and urged physicians to use the method of direct billing rather than taking assignments for Medicare patients.

Doctor Orr then continued with the report of his reference committee.

C. Your reference committee recommends that financial assistance be requested from other allied organizations such as the Oklahoma Osteopathic Association, Labor, Industry and the Oklahoma Hospital Association.

B. C. Chatham, M.D., moved to amend the report by striking the word "allied." The motion was seconded and carried.

*Mr. Speaker, I move the adoption of this portion of the report as amended. The motion was seconded and carried.*

Section II (Governmental Relations Committee):

The reference committee recommends the adoption of this section of the report.

*Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.*

Section III (Committee on Occupational Medicine):

The reference committee recommends approval of this section of the report.

*Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.*

Section IV (Prepaid Medical Care Committee):

Your reference committee recommends the approval of this section of the report.

*Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.*

*Mr. Speaker, I move the adoption of the report as a whole. The motion was seconded and carried.*

R. Q. Goodwin, M.D., moved to reconsider the Report of the Secretary-Treasurer. R. W. Loy, M.D., seconded the motion and it carried.

Regarding that portion of the report referring to the Board of Trustees' action to appropriate up to \$2,500 from savings to finance the campaign of Malcom E. Phelps, M.D. as a candidate for Vice-President of the American Medical Association, Doctor Goodwin made the following motion:

*I move the House of Delegates oppose the action of the Board of Trustees to appropriate campaign funds for any Oklahoma candidate for national office, and to advocate private contributions to such campaigns. Lewis C. Taylor, M.D., seconded the motion.*

C. Riley Strong, M.D., offered the following substitute motion:

*I move to approve personal contributions, but that the association should make contributions as a group in order that other states will know the association is supporting its candidate. David Carson, M.D., seconded the motion.*

R. W. Loy, M.D., moved to amend the substitute motion as follows:

*I move that private subscriptions be made, but that the amount recommended be guaranteed by the Oklahoma State Medical Association. Edgar W. Young, Jr., M.D., seconded the motion.*

Edward K. Norfleet, M.D., moved to table the motion. Harlan Thomas, M.D., seconded the motion and it carried.

John R. Reid, M.D., moved that under no circumstances should the savings of the association be withdrawn below the sum of \$40,000 without specific action of the House of Delegates. The motion was duly seconded but failed to carry.

In the discussion that followed regarding the source of funds to execute the actions taken by the House of Delegates, Don Blair, OSMA Executive Secretary, commented that the first year's contribution to the Health Economic Task Force program will be somewhat less than discussed here; and, with the dues increase and the anticipated revenue from the *Journal*, there should be sufficient money in the current funds to finance the major part of this commitment. It was further ob-

served that the anticipated maximum amount to be spent was \$18,000 for the first year, and \$9,000 for the two succeeding years, and it was doubtful if this amount would be spent.

B. C. Chatham, M.D., moved that the portion of the Treasurer's report reconsidered be adopted as recommended by the reference committee. David Fried, M.D., seconded the motion and it carried.

The next item to be considered was the election of Officers, Delegates and Trustees. The Speaker stated that the House would vote on the contested offices, and that uncontested nominees would be elected by acclamation.

Edward K. Norfleet, M.D., moved that the AMA Alternate Delegate (Position No. 2), the Vice-President, Trustee and Alternate Trustees from Trustee Districts I through V be elected by acclamation. Robert L. Loftin, M.D., seconded the motion and it carried.

Following are the newly elected Officers, Delegates, Trustees and Alternate Trustees:

President-Elect: Scott Hendren, M.D., Oklahoma City.

Vice-President: E. H. Shuller, M.D., McAlester.

AMA Delegate (Position No. 1): Malcom E. Phelps, M.D., El Reno.

AMA Alternate Delegate (Position No. 1): Thomas C. Points, M.D., Oklahoma City.

AMA Delegate (Position No. 2): Harlan Thomas, M.D., Tulsa.

AMA Alternate Delegate (Position No. 2): Ennis M. Gullatt, M.D., Ada. Trustee District No. I:

Trustee: H. E. Denyer, M.D., Bartlesville

Alternate Trustee: Glenn W. Cosby, M.D., Miami

Trustee District No. II:

Trustee: George B. Gathers, M.D., Stillwater

Alternate Trustee: Thomas C. Glasscock, M.D., Ponca City

Trustee District No. III:

Trustee: Avery B. Wight, M.D., Enid

Alternate Trustee: Webber W. Merrell, M.D., Guthrie

Trustee District No. IV:

Trustee: Ed L. Calhoon, M.D., Beaver

Alternate Trustee: John X. Blender, M.D., Cherokee

Trustee District No. V:

Trustee: C. Riley Strong, M.D., El Reno

Alternate Trustee: Ross Deputy, M.D., Clinton

The Speaker stated that he wished to extend his thanks to the House for its decisions, committee members for their cooperation and assistance in the conduct of this difficult session, and he wished to especially express his appreciation to the chairmen of the reference committees for their leadership in considering and subsequently acting upon the items referred to their respective committee, and Don Blair for his work in the planning and conduct of the OSMA's 61st annual meeting.

Doctor Robert L. Loftin moved to commend the OSMA staff on the "Gaslight Party" and to thank them for a very pleasurable evening. Doctor Mark D. Holcomb seconded the motion and it carried.

Doctor David Carson moved to commend the speaker for the manner in which he conducted the meeting. The motion was duly seconded and carried.

Doctor E. K. Norfleet moved to adjourn the 61st annual session of the House of Delegates. The motion was seconded by Doctor B. C. Chatham and carried.

The meeting adjourned at 11:35 a.m.

Recorded by Martina Doyle

Report of the  
BOARD OF TRUSTEES  
May 12, 1967  
(APPROVED)  
Board Actions

Five meetings of the Board of Trustees have been held since the last annual meeting. This report relates to the significant actions of the first four meetings, and actions taken by the Board at its May 11th annual meeting are covered in the accompanying "supplemental report."

Reportable actions taken during four called meetings are:



1. Samuel R. Turner, M.D., Tulsa, and C. Riley Strong, M.D., El Reno, were elected Chairman and Vice-Chairman of the Board of Trustees, respectively.

2. After a study by a committee of the Board, \$2,500 was appropriated to help create the "Oklahoma Council on Health Careers," an organization designed to provide a centralized effort of all interested groups in recruiting young Oklahomans to pursue careers in the health sciences. The program has not been initiated as yet, but the Board of Trustees is keeping abreast of developments.

3. The auditor's report of fiscal operations for the year ending May 31, 1966, was reviewed and approved by the Board, and authentic copies were mailed to all members of the House of Delegates.

4. Recognizing the importance of political education and action to the good-government objectives of the association, the Board authorized airfare for its members who desire to attend a national workshop on the subject in June.

5. The Board, working with a Membership Committee headed by Tom C. Points, M.D., approved many special membership applications on behalf of military and public health doctors, thus broadening the base of organized medicine and entitling the association to a third delegate to the AMA House of Delegates.

6. Acting under House of Delegates authority, the Board approved payment of monthly travel expenses associated with the OU Medical Center's Project Responsibility, up to \$100 a month.

7. To fill the vacancy on the Board of Medical Examiners created by the resignation of E. F. Lester, M.D., Oklahoma City, the OSMA Board of Trustees nominated three physicians to the Governor. Donald L. Brawnner, M.D., Tulsa, one of the OSMA nominees, was subsequently appointed.

8. Because of the growing difficulty in attracting prominent guest lecturers for the OSMA annual meeting, the Board approved the pay-

ment of modest honorariums on the recommendation of the Annual Meeting Committee.

9. An OSMA-sponsored European Tour, based upon competitive bids, has been approved by the Board of Trustees. Scheduled to depart on July 17, 1968, the plan offers an attractively-priced 16-day tour of London, Paris, Zurich, Lucerne and Rome, plus an optional seven-day extension to Florence, Venice and Berlin. Details may be obtained from the travel booth at this annual meeting.

10. The Board delegated to the Executive Committee the responsibility for hiring a Public Relations Director.

11. At the request of the Board of Trustees, officers of the association asked the State Department of Health and received permission to interview candidates for the Commissioner of Health position.

12. The Board of Trustees requested and received progress reports on major Council and Committee Activities throughout the year.

13. Three physicians were nominated for one position on the Professional Advisory Committee for Medical Care of Crippled Children. The present committee chairman, Don H. O'Donoghue, M.D., Oklahoma City, was included in the nominees and was subsequently re-appointed.

14. A committee of the Board was appointed to study and make recommendations on the proposals contained in the Report of the Citizens Commission on Graduate Medical Education and related reports.

15. The Board went on record as favoring the payment of customary and reasonable charges for professional services to beneficiaries of the Dependents' Medical Care Program and authorized the Governmental Relations Committee to pursue this objective (later accomplished, see committee report).

16. 50-Year Pins were awarded by the Board to:

W. Pat Fite, Sr., M.D., Muskogee  
J. Holland Howe, M.D., Ponca City

C. F. Loy, M.D., Oklahoma City  
P. H. Medearis, M.D., Tahlequah  
Fred S. Watson, M.D., Okmulgee

17. The Board authorized the purchase of gold pins for all living Past-Presidents of the OSMA.

18. The Board endorsed the recommendation of the Council on Insurance to discontinue affiliation with the St. Paul Fire and Marine Insurance Company and to recommend the professional liability insurance program of the Insurance Company of North America.

19. Dates for future OSMA annual meetings in Oklahoma City were selected due to heavy bookings: May 14th-17th, 1970, and May 11th-14th, 1972, Skirvin Hotel Convention Center. (The 1968 annual meeting will be at the Skirvin on May 16th-19th, 1968. Dates for the 1969 annual meeting in Tulsa, are contained in Recommendation No. 2 of this report.)

20. Mr. and Mrs. N. D. Helland were honored by the Board of Trustees at a banquet where he was presented with the House of Delegates' Certificate of Accomplishment.

21. A resolution was approved recommending that the respective governing boards of the Oklahoma Blue Cross-Blue Shield Plans remove all professional components of laboratory services from the list of Blue Cross benefits and include such services under Blue Shield.

22. The Board submitted nominees to the nominating committees of the Blue Cross and Blue Shield Boards of Trustees, but appointments have not been announced to date.

23. The Board nominated three physicians as candidates to fill an unexpired term on the Board of Medical Examiners, due to the resignation of John M. Moore, M.D., Pauls Valley. At this writing, Governor Bartlett's appointment is not known.

#### Membership

The following membership figures are reported as of this date:

Active Members	1,765
Active Dues-Exempt Members	101
Applications Pending	43



Life Members	138
Affiliate Members	7
Junior Members	29
<hr/>	
Total	2,083

#### Recommendations:

1. It is recommended that the following applications for Life Memberships be approved by the House of Delegates:

Thomas H. Davis, M.D., Tulsa  
W. Pat Fite, Sr., M.D., Muskogee  
D. L. Garrett, M.D., Tulsa  
Jess D. Herrmann, M.D., Oklahoma City  
E. G. Hyatt, M.D., Tulsa  
Hugh H. Monroe, M.D., Pauls Valley  
Grider Penick, M.D., Oklahoma City  
Ruth C. Reichmann, M.D., Oklahoma City  
Wayman J. Thompson, M.D., Oklahoma City  
J. C. Wagner, M.D., Ponca City  
Agnew A. Walker, M.D., Wewoka  
Fred S. Watson, M.D., Okmulgee  
Louis E. Woods, M.D., Chickasha

2. It is recommended that the 1969 annual meeting be held in Tulsa on May 15th-17th, 1969.

#### Supplemental Report of the BOARD OF TRUSTEES (APPROVED AS AMENDED)

The Annual Report of the Board of Trustees represents only a summary of significant actions taken during the previous year. However, the Board held its annual meeting on May 11th, and wishes to report the following actions in the form of a supplemental report.

1. Referring to Resolution No. 2, the Bylaws require that resolutions be submitted 30 days in advance of the annual meeting, but the Board is empowered with discretionary authority to receive late resolutions and to transmit them on to the House of Delegates. Resolution No. 2 was received after the deadline, but has been approved by the Board for consideration at this annual meeting.

2. The Board reviewed Section I of the Report of the Council on Socio-Economic Activities and endorsed the recommendations contained therein. The Board's action is past on

to the House of Delegates for its consideration.

3. Because of widespread national interest in the Report of the Citizens Commission on Graduate Education (now under consideration by the AMA House of Delegates), your Board of Trustees appointed a committee from within its own ranks to review this significant report, as well as other related reports, and the Board's committee report is attached in the form approved by the Board of Trustees on May 11th.

4. In addition to the Fifty Year Club Memberships mentioned in the Board's Annual Report, J. Holland Howe, M.D., Ponca City, was awarded this recognition on May 11th.

5. The Board of Trustees, as the judicial authority of the Oklahoma State Medical Association, has adopted the following policy regarding Itinerant Surgery:

"The Board of Trustees believes that itinerant surgery is inimical to the welfare of patients.

"Itinerant surgery is defined as the performance of surgical operations (except on patients whose chances of recovery would be prejudiced by removal to another hospital) under circumstances in which the responsibility for diagnosis or care of the patient is delegated to another who is not fully qualified to undertake it.

"Even where a visiting surgeon may be necessary in accordance with the above definition, the surgeon should only entrust post-operative care to another physician who is fully competent. The visiting surgeon should agree in advance and be available in terms of time to reach the patient should a postoperative emergency occur, and he should be close enough to the patient to make regular postoperative visits.

"Since the primary responsibility for enforcement of this policy should be vested in the medical staffs of hospitals, such staffs are urged to adopt compatible provisions in their medical staff bylaws to prohibit unwarranted itinerant surgery and to effect safeguards to patient care where visiting surgeons are deemed justifiable or necessary."

6. As provided in the bylaws, elections were held for the positions of Chairman and Vice-Chairman of the Board of Trustees. Samuel R. Turner, M.D., Tulsa, was re-elected as Chairman and C. Riley Strong, M.D., El Reno, was re-elected as Vice-Chairman.

7. The Financial Aid to Education Committee reported to the Board of Trustees that the University of Oklahoma Medical School was in danger of losing nearly \$250,000 in Federal student loan funds for want of \$25,000 in local matching funds. Since the OSMA Loan Fund presently shows a balance of \$7,606.43, and in view of the great need for additional loan funds to assist worthy students in completing their medical education, the OSMA committee recommended to the Board that \$5,000 of the current loan funds be distributed directly to the medical school for its use in meeting the \$25,000 quota by the deadline of July 1,

The Board has considered present conditions under which the OSMA loan program operates, and it feels that House of Delegates action is necessary in order to depart from these regulations on a one-time basis. Therefore, it is recommended that the House of Delegates authorize the Financial Aid to Education Committee to contribute \$5,000 to the medical school to assist it in earning the maximum Federal funds for loans to medical students.

(The House of Delegates subsequently amended this report by stating: "In the event the medical school is unable to meet its quota, the Board of Trustees is authorized to draw up to an additional \$5,000 from the special assessment fund.")

#### Report of the BOARD OF TRUSTEES COMMITTEE ON MEDICAL EDUCATION (APPROVED)

##### Committee Members

Orange M. Welborn, M.D., Ada, Chairman

Rex E. Kenyon, M.D., Oklahoma City

C. Riley Strong, M.D., El Reno

H. E. Denyer, M.D., Bartlesville

While it is couched in philosophy and partly overburdened in seman-

tics, the Millis Report, in the opinion of this Ad Hoc Committee sets forth several significant statements:

1. It recognizes the changing patterns of medical practice and attempts to re-design medical education in an attempt to meet these changes.

2. It recognizes the fragmentation of design and planning as it relates to the various medical specialty training programs, inasmuch as these are virtually under the control of the several specialty boards and individual directors on hospital staffs.

3. It makes general recommendations in solution to these problems which, of necessity, reflect the collective opinion of the authors.

This committee at the outset recognizes the frequently voiced criticism of the Millis Report that it was dominated by non-practicing educators. Constructive criticism, however, when requested by Medicine, and offered by any group deserves our most serious consideration.

This committee basically agrees with the Millis analysis of the changing professional scene. Obviously the medicine of today differs materially from that of even 20 years ago, and there is every indication that changes will be more dramatic 20 years hence. Knowledge is not static, nor can medical methodology be so.

This committee further agrees with the Millis appraisal of fragmentation in both the planning and implementation of our postgraduate medical training programs. Not only are these controlled to large degree by unrelated Specialty Boards, but they are in large part designed by individual isolated hospital staffs. Since undergraduate medical education has long been the province and responsibility of our schools of medicine, this committee feels that these schools are the logical institutions to direct a more unified, integrated postgraduate program.

The committee does feel, however, that some professional control should be maintained by practicing physicians who are more aware of the

day-to-day problems of clinical practice. We feel this can best be accomplished under the auspices of the Council on Medical Education of the American Medical Association. It may well be necessary to re-design this Council by enlarging it to guarantee adequate representation from the several professional disciplines, and charge it with greater responsibility. Programs designed by the Medical Schools should have some individual latitude, to meet local demands and situations, but the final program should be approved by the Council on Medical Education.

The committee recognizes that in making this recommendation, there is a tendency to centralize postgraduate education in affiliated teaching hospitals. Such a move could well work a hardship on other hospitals which have no school affiliation. We must, however, concern ourselves more with the quality of education than with the simple maintenance of House Staff Personnel for hospitals. These hospitals, however, should be given an opportunity to affiliate with a teaching institution if their individual standards are, or can be made, acceptable to the Council on Medical Education.

The committee sees no objection to transforming the one-year internship into the first year of residency training if the conflicting state laws can be amended. While the internship may offer valuable orientation, we feel the time might be more profitably spent in more concentrated activity in the young physician's chosen field, be it specialty or general practice.

The committee finds no objection in requiring longer periods of postgraduate residency training, but it would question whether a specificity of four years should be indicated at this time. Obviously, the increasing wealth of medical knowledge will continue to require longer periods of training to accomplish professional adequacy. We are concerned, however, that the young physician, under present training and military requirements, usually is well past 30 years of age before he can enter practice. Consideration should be

given, therefore, to combining the pre-medical years with the basic science years of undergraduate education in order to compensate, to some degree, for longer postgraduate requirements.

This committee feels inadequate to comment on the semantics of "general practice," "family physician," "primary physician," et cetera, as it is discussed in length in the Millis Report. There is an obvious need for a primary physician who is adequately trained to meet most family situations of medical need. The questions regarding the extent of his training, the nature thereof, and the mechanics of its provision have not, in our opinion, been answered in the Millis analysis, and this report should only serve as a stimulant for a continuing study by the American Medical Association, its constituent associations, and medical schools.

#### Report of the CONSTITUTION AND BYLAWS COMMITTEE (APPROVED)

##### *Committee Members*

C. M. Hodgson, M.D., Chairman  
J. William Finch, M.D.  
John W. Drake, M.D.  
George H. Garrison, M.D.  
Maxwell A. Johnson, M.D.  
Paul E. Rempel, M.D.

##### *Section I Activities*

As the House of Delegates is well aware, a completely new Constitution and Bylaws for the Oklahoma State Medical Association was adopted at the 1966 annual meeting after being considered at the 1965 annual meeting and at two special sessions. Hundreds of man-hours were devoted to this project.

Since the implementation of the document, your committee has been sensitive to reactions or problems associated with the revised governing rules of the association, and is pleased to report that it appears to be working well. Certainly, the reorganization of chapters and general clarification of language have resulted in a vast overall improvement.



At the request of your committee, four county medical societies have prepared revised constitutions and bylaws which are compatible with the OSMA document. A continuing effort is being made to obtain such cooperation from all remaining component societies, to the end that the OSMA will have an up-to-date file and that coordination of rules may be obtained by the OSMA with its component societies where necessary.

Some concern has been expressed regarding the reduction in size of the Board of Trustees. However, a comparison of attendance from the various districts during the organizational year of 1966-67 compares favorably to the preceding year when the Board was comprised of 41 physicians in contrast to the present 17 physicians.

For example, there have been four meetings of the new Board prior to this annual meeting. Eight trustee districts were represented at all meetings, five districts were represented at three of the four meetings, and one district was represented at two of the four meetings.

While absenteeism is not to be desired, a review of the former Board's attendance record in 1965-66 does not indicate that a larger Board results in better representation for the various trustee districts.

Five meetings were held that year, including the annual meeting. Seven districts were represented at all meetings, four districts attended four of the five meetings, and three districts made three of five meetings.

It may be seen that the new system for apportioning the Board of Trustees does not in itself retard representative government. Each Trustee's Alternate is advised of all meetings, and the Trustee may be reasonably expected to notify his Alternate in the event he cannot attend a called meeting.

Your Constitution and Bylaws Committee believes that trustee district representation at all meetings of the Board could be enhanced by greater knowledge and interest in policy-making activities on the part

of the forty-five county and district medical societies. Distributing the proceedings of all Board meetings to the presidents of component societies could be undertaken by the Board of Trustees without the necessity of amending the bylaws.

One problem has occurred about which your committee feels obligated to express its views.

The Board of Trustees, at its February 25th meeting, approved a Life Membership application submitted by a county medical society, and in doing so waived the provision in the bylaws which requires membership in the OSMA for the five-year period immediately preceding an application.

Without arguing the merit of the physician involved nor questioning the Board's justification for the waiver, your committee does not believe that a specific eligibility requirement in the bylaws can be waived. It is recognized by your committee, however, that the Board of Trustees should be given more discretionary authority than what is presently contained in the bylaws.

#### Section II

##### *Recommendations:*

1. To provide the Board of Trustees with discretionary authority with respect to the awarding of Life Memberships, the Constitution and Bylaws Committee recommends the following amendment to the bylaws:

Amend Chapter I, Section 2. 031 of the Bylaws by inserting a new clause between the words "application" and "and" to read as follows:

" . . . , unless in the discretion of the Board of Trustees there are mitigating circumstances justifying the waiver of this requirement, . . . "

This amendment, if approved, would not take effect until the close of the annual meeting. Thus, the application in question would have to lie over until the 1968 annual meeting before the requirements of the bylaws could be waived by the Board of Trustees. In the meantime, if the county medical society sponsor so desires, the physician-applicant could have his 1967 dues

waived under other provisions of the bylaws.

2. To increase interest in the affairs of organized medicine, and to thereby enhance representation at meetings of the Board of Trustees, your committee recommends that the Board of Trustees regularly send the proceedings of its meetings to all county medical society presidents.

3. To give the new Constitution and Bylaws a fair and reasonable trial before considering any significant amendments, your committee recommends that further amendments be discouraged at the 1967 annual meeting.

#### Report of the COUNCIL ON PROFESSIONAL EDUCATION (APPROVED)

##### *Council Members*

Kelly M. West, M.D., Oklahoma City,  
Chairman

Irwin H. Brown, M.D., Oklahoma  
City

Avery B. Wight, M.D., Enid

James R. Rhymer, M.D., Clinton

French L. Worthen, M.D., Lawton

Gerald W. McCullough, M.D., Norman

Glen L. Berkenbile, M.D., Muskogee  
Ed L. Calhoun, M.D., Beaver

James T. Colwick, Jr., M.D., Durant

V. C. Merrifield, M.D., Ponca City

G. B. Gathers, Jr., M.D., Stillwater

H. V. Schaff, M.D., McAlester

*Medical School Liaison Committee*  
Vernon D. Cushing, M.D., Oklahoma  
City, Chairman

Ollie McBride, M.D., Ada

James L. Dennis, M.D., Oklahoma  
City

C. L. Tefertiller, M.D., Altus

C. Riley Strong, M.D., El Reno

E. K. Norfleet, M.D., Norman

#### SECTION I

##### *POSTGRADUATE EDUCATION*

This year marked the seventh consecutive year for OSMA sponsorship of Regional Postgraduate Education Courses. This year, a series of nine regional educational reviews were held throughout Oklahoma.

Hosting courses this year were: Ada, Altus, Bartlesville, Enid, Lawton, McAlester, Muskogee, Sapulpa and Woodward. A total of 226 phy-



sicians attended the series this past year.

This year, as well as in the past, your Council on Professional Education has worked in conjunction with the Office of Postgraduate Education of the OU Medical Center in sponsoring the nine regional postgraduate courses. Your Council and the Office of Postgraduate Education have also worked together in sponsoring an increased number of educational television programs.

Beginning on October 4th, 1966, and continuing through May 23rd of this year, a series of 34 television programs will have been made available to medical practitioners in most of Oklahoma through the courtesy of KETA-TV, Oklahoma City, and KOED-TV, Tulsa. A wide variety of medical subjects are covered and, for the second year in a row, each program is shown twice daily, once at 7:30 a.m. and repeated at 9:30 p.m.

The Council on Professional Education considers it important to mention that as a result of the increasing numbers of private and governmental grants being made available to medical continuing education, it is becoming more apparent that this growing increase in grants is lessening the association's ability to adequately stay up with other increasing financing sources. Your Council does feel very strongly, however, that regardless of the financing source, the OSMA should always continue to furnish appropriate guidance in preparation and conducting of postgraduate education for practicing physicians.

It is also appropriate to point out that while the OSMA allocated \$3,000 this past year for postgraduate education, this did not nearly cover the actual expenditures incurred where the medical center's staff time, and OSMA staff time as well, were concerned.

The OSMA Council on Professional Education recognizes that one of today's major outlets for continuing education for practicing physicians

still comes from numerous available scientific publications.

In this related area, your Council is about to begin a preliminary study, working with the medical center, into the need for a good statewide program for medical library services.

It is difficult to know at this time what kind of projects will be given first priority for developing guidelines to improve our present systems of selecting, storing, retrieving and disseminating information. Oklahoma may need a central information facility which can provide information and supporting services to libraries in community hospitals and directly to physicians and other health-related personnel. There is good reason to believe at this point that there is real need, also, to improve library facilities and services in most Oklahoma hospitals.

It must be determined which of the newer technologies, such as computers, long distance xerox, et cetera, will be applicable and feasible in establishing a sound informational network with physicians and hospitals throughout our state.

Your Council on Professional Education consulted with the University of Oklahoma Medical Center Library and the Regional Program for Heart Disease, Cancer and Stroke in their sponsorship on March 31st, 1967, of a meeting on "Library and Biomedical Information."

The purpose of this meeting held at the medical center was to present new information on retrieval and dissemination of biomedical knowledge, and to discuss ways to improve and facilitate library services in Oklahoma, with special emphasis on the potentialities of cooperative efforts and the use of modern technology in order to accomplish same.

#### *Recommendations:*

1. That the Regional Postgraduate Courses be continued and that the budget for these courses be set at \$2,200, realizing that of this set amount, approximately \$1,400 will result from income received through physician registration fees.

2. That the Educational Television Courses be continued and that the

sum of \$2,000 be allocated to defray these expenses.

3. That the House of Delegates support the Council on Professional Education's involvement with the OU Medical Center and other related groups in studying the needs for better statewide medical library facilities and services.

#### *SECTION II*

##### *MEDICAL SCHOOL LIAISON COMMITTEE*

Your committee has followed with active interest the dynamic developments taking place at the University of Oklahoma Medical Center.

Following are the major divisions of activity together with brief summaries of the work in progress: *Oklahoma Health Center:*

A ten-year program is underway through public and private endeavors and resources to create a \$185 million "Oklahoma Health Center" with the University of Oklahoma School of Medicine as its nucleus.

The basic reason for developing the center is to supply trained manpower to meet growing demands for effective and economical medical and health care throughout Oklahoma.

In addition to this basic mission, the new center will, through the cooperative efforts of the various institutions concentrated in the development complex, offer broader-based benefits of medical education, research, public health and patient services to every area of the state.

To be situated on a 200-acre tract in the present medical center area, the building will feature a grouping of private general hospitals, the Veterans Administration Hospital, the Oklahoma Medical Research Foundation, a new University Hospital, private clinics, a new basic science building for medical and dental students, a new dental school, a school of public health, expanded and convenient parking facilities, a school of allied health sciences, a graduate education center, a central computer service, student housing and administrative facilities, new and imaginative library facilities and services, and a cluster of public and private health agency facilities.

Through such a concentrated and coordinated effort, the Oklahoma Health Center's planners hope to create the nation's first all-inclusive "health campus." The private and public institutions participating in the complex will retain their autonomy and administrative control, but there will be an added advantage of interchanging services to accomplish common objectives as well as the economical sharing of utilities, services and facilities.

Oklahoma Health Center is designed for community service, and the community has been defined as the entire state of Oklahoma.

An "umbrella group," the Oklahoma Health Sciences Foundation, has been established at the invitation of former Governor Henry Bellmon to coordinate and guide the planning and development of the Oklahoma Health Center. The foundation, with a full time executive director and a board comprised of prominent Oklahomans from throughout the state, is responsible for master planning, site planning, land acquisition, overall architectural appearance, campus landscaping, and the initial operation of central services and facilities.

Construction of the new basic science building will begin in the summer of 1967, and a financial program for future development is being planned in cooperation with government officials for early submission to the Oklahoma Legislature. The new University Hospital will be the next step from a construction standpoint.

In keeping with the primary mission, completion of the new basic science building will enable the medical school to expand the size of its 1968 freshman class by 25 students.

#### *Regional Medical Program:*

Concomitant with the Oklahoma Health Center's mission to improve the quantity and quality of health manpower and health science services throughout the state, the University of Oklahoma Medical Center is serving as the planning agency for the development of a Regional Medical Program as provided in Public Law 89-239.

The original Federal bill called for a nationwide system of regional complexes to extend research, education and service in the areas of heart disease, cancer and stroke. It was a controversial measure due primarily to its orientation toward centralized treatment facilities, but elements of the health professions were able to materially alter the measure through substantial amendments.

The law, as passed by Congress, provides that the program will not interfere with traditional patterns of practice; no new facilities will be constructed; patient care will not be supported with allocated funds (except for research); planning within each region is to be done locally; and the primary emphasis is to be directed toward improving programs for continuing education for physicians and other health practitioners.

The entire state of Oklahoma has been designated as a "region" for purposes of planning and program development. A feasibility study is now underway, directed by medical center staff and a Regional Advisory Council composed of twelve physicians, other health organization representatives, and private citizens.

To assure maximum communications between the Oklahoma State Medical Association and the medical center as the program develops, the OSMA has created a Regional Medical Program Liaison Committee which will report directly to the association's Board of Trustees. Its membership is:

Marvin K. Margo, M.D., Oklahoma City, Chairman

George M. Brown, Jr., M.D., McAlester

Mark R. Johnson, M.D., Oklahoma City

James G. Moore, M.D., Tulsa

James H. Bushart, M.D., Lawton

Lloyd L. Long, M.D., Ardmore

Ollie McBride, M.D., Ada

Paul H. Rempel, M.D., Enid

Joe L. Spann, M.D., Tulsa

As stated in the planning grant of the feasibility study, the broad goals of the Oklahoma Regional Medical Program include:

1. The life-long continuing education of physicians within the state

of Oklahoma with emphasis on cancer, heart disease, stroke, and related disease.

2. The support, promotion, and attainment of standards of excellence in the practice of community medicine.

3. The utilization of all the resources at its command in collaboration with the physicians of the state, community hospitals, state, and voluntary health agencies to provide the intellectual environment for the attainment of the above objectives.

The planning program will take about three years, and will involve studies at the community level as well as consultations with public and private agencies having parallel interests.

Ultimately it is hoped that a sophisticated continuing education program can be developed through the community hospitals over the state with the medical center serving as the nucleus.

A project grant application for the purpose of implementing the program will be considered after the feasibility study is completed and a workable program is thereby developed.

#### *Health Intelligence Facility:*

As a conjoint effort of the Oklahoma Health Center and the Oklahoma Health Sciences Foundation, a Health Intelligence Facility has been established under the direction of Tom C. Points, M.D.

The purpose is to create a center for developing health statistics on manpower, facilities, and economic and demographic information. Application of this data will enable the Oklahoma Health Center to accurately plan its teaching programs to meet identifiable needs.

HIF will gather and analyze data, but will not in itself serve as a planning agency.

At the present time, data on about 60 per cent of the state's health personnel has been obtained, recorded on a computer, and is in the process of being analyzed.

#### *Project Responsibility:*

Also related to the medical center's goal of providing statewide consultative service in the health sci-



Report of the  
FINANCIAL AID TO EDUCATION COMMITTEE  
(APPROVED)

*Members*

Rex E. Kenyon, M.D., Oklahoma City, Chairman  
Joe L. Duer, M.D., Woodward Harlan Thomas, M.D., Tulsa  
E. M. Gullatt, M.D., Ada Maxwell A. Johnson, M.D., Tulsa

A report on deposits and disbursements, September, 1962 through May, 1967 appears below:

**INCOME**

Deposits from OSMA Dues . . . . .	\$51,671.15
Interest Earned . . . . .	570.23
Loan Repayments . . . . .	1,165.05

Total . . . . .	\$53,406.43
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**EXPENSE**

Scholarships Awarded (25) . . . . .	\$12,250.00
Loans Granted (70) . . . . .	30,550.00
Loans In Process (1) . . . . .	500.00

Total . . . . .	\$43,300.00
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BALANCE . . . . .	\$10,106.43*
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\*On Deposit at Interest, First National Bank and Trust, Oklahoma City, Oklahoma

During the past year, the committee approved 20 loans. Last September, five \$500 scholarships were awarded to the following freshmen on the basis of academic achievement:

Paul Hinshaw Powell	Herbert Laird Ingham, Jr.
Margaret Burford Cox	Preston Dale Cosgrove
Jackie Juan Beller	

The five scholarship winners for the 1967 freshman class have not been selected as of this date.

ences field is "Project Responsibility," a program initiated in 1965 under the direction of Doctor Points.

The program's purpose is to gauge basic deficits of rural health services, to endeavor to learn how best to utilize paramedical personnel in a rural setting, the economy of such personnel, how to attract high caliber physicians, how to provide them with an intellectually and professionally satisfying environment, how to utilize such a program for teaching purposes, research in the packaging and delivery of health services, and how to best provide exemplary care to have-not medical care areas.

After a statewide survey, the community of Wakita was selected for the initial project in keeping with the program's goal.

Construction will begin during the summer of 1967 on a privately-financed \$500,000 community health center. The center will be staffed by three physicians—a general practitioner, internist, and pediatrician. In addition, there will be a medical social worker, a public health nurse, registered nurses, and aides.

Supporting services will include a laboratory, x-ray, emergency room and delivery room. A 35 to 50 bed extended care facility, with seven to ten beds set aside and equipped for acute care, will be provided.

Patients with serious or unusual problems will be transported to the nearest hospital center.

Physicians will charge standard fees for service, but initially there will be guaranteed minimum levels of income for health personnel.

Staff physicians at the community health center will spend two or three days each month at the medical school, both as teachers and students.

The Oklahoma State Medical Association contributes to the financial support of Project Responsibility by defraying the travel expenses of the project director.

Report of the  
SECRETARY-TREASURER  
(APPROVED AS AMENDED)

This report contains an estimated financial statement for the fiscal

year ending May 31, 1967, and a budget for the next fiscal year.

The financial statement was prepared by using actual expenditure figures for the first ten months of the fiscal year and combining expense estimates for April and May, so it is presented only for the purpose of offering a general picture of the association's financial condition.

A formal audit will be conducted in June and the OSMA Appropriations and Audit Committee will mail certified copies to all members of the House of Delegates after the final report is reviewed by the Board of Trustees.

The financial statement indicates that the association is correlating income and expense in a proper manner.

Since a dues increase of \$18 per member became effective on January 1st, the reported dues income reflects a credit of five-twelfths of the new revenue. As of May 1st, all but 56 dues-paying members of the association have renewed their mem-

bership in the OSMA at the new annual rate of \$75.00.

The estimated surplus for the current fiscal year is primarily due to a marked increase in Journal advertising. Moreover, new staff employees were not added to the payroll until Fall, thus expenses for salaries were not as great as contained in the budget for the year.

A budget for the succeeding fiscal year is attached as a guide for anticipated financial operations. It has been prepared in keeping with known association commitments and continuing program activities, but it does not reflect new projects involving financial outlays which may be approved at this annual meeting.

The budgets for councils and committees have been significantly increased due to the receipt of the full twelve-month benefit of the 1967 dues increase. In addition, travel adjustments have been made to allow for the election of a new Delegate and Alternate Delegate to the AMA, and the budget for fixed expenses has



**FINANCIAL STATEMENT**  
(Estimated for Year Ending May 31, 1967)

**INCOME**

Membership Dues . . . . .	\$103,000.00
Scholarship and Loan Fund (from dues) . . . . .	9,000.00
Journal Advertising, Subscriptions . . . . .	44,722.00
Membership Directory Sales . . . . .	278.00
Annual Meeting . . . . .	16,000.00
AMA Grant (OSMA Mental Health Confr.) . . . . .	2,000.00
Interest from Savings, Time Deposits . . . . .	3,528.00
Miscellaneous (AMA Commissions) . . . . .	1,000.00
Postgraduate Courses . . . . .	1,200.00

TOTAL INCOME . . . . . \$180,728.00

**EXPENSES**

Fixed Expense (Schedule A) . . . . .	\$ 80,255.00
Depreciation . . . . .	2,200.00
Councils and Committees	
Public Policy . . . . .	4,133.00
Insurance . . . . .	—0—
Professional Education . . . . .	3,997.00
Socio-Economics . . . . .	59.00
Public Health . . . . .	1,209.00
Prof. & Intervocational Relations . . . . .	—0—
Scholarship and Loan Fund . . . . .	9,000.00
In-State-Travel . . . . .	4,412.00
Out-State-Travel . . . . .	12,647.00
Journal Expense . . . . .	41,549.00
Annual Meeting . . . . .	16,000.00

TOTAL EXPENSE . . . . . \$175,461.00

TOTAL SURPLUS . . . . . \$ 5,267.00

**SCHEDULE A**  
**FIXED EXPENSES**

(Estimated for year ending May 31, 1967)

Salaries . . . . .	\$ 44,426.00
Payroll Tax . . . . .	1,860.00
Pension Costs . . . . .	3,600.00
Office Supplies . . . . .	6,943.00
Auditing . . . . .	457.00
Legal . . . . .	1,200.00
Postage . . . . .	4,752.00
Telephone and Telegraph . . . . .	3,220.00
Dues and Subscriptions . . . . .	750.00
Equipment Repair and Service . . . . .	132.00
Insurance . . . . .	2,900.00
Miscellaneous (Student Banquet) . . . . .	2,812.00
Woman's Auxiliary . . . . .	200.00
Lawn Supplies . . . . .	5.00
Services . . . . .	827.00
Awards and Contributions . . . . .	460.00
Equipment Rental (Postage Meter & Xerox) . . . . .	1,046.00
Janitor Supplies . . . . .	121.00
Building Maintenance and Repair . . . . .	398.00
Utilities . . . . .	2,334.00
Staff and Officers Expense . . . . .	1,812.00

TOTAL EXPENSES . . . . . \$ 80,255.00

been increased to accommodate the established trend in rising operational costs.

The estimated financial statement and the budget were developed and approved on April 30th by the Ap-

propriations and Audit Committee composed of C. Riley Strong, M.D., Lewis C. Taylor, M.D., and Worth M. Gross, M.D.

Your Secretary-Treasurer and the Appropriations and Audit Committee

are of the opinion that the association is well-financed today, and are convinced that no further dues increases are possible or desirable for several years. However, since a growth in association activities may

SAVINGS	
Ponca City Building and Loan . . . . .	\$ 10,000.00
Lawton Savings and Loan . . . . .	10,000.00
Tulsa Federal Savings and Loan . . . . .	10,000.00
Oklahoma City Federal Savings and Loan . . . . .	10,321.77
Local Federal Savings and Loan . . . . .	10,788.31
Founders National Bank . . . . .	10,000.00
<b>TOTAL SAVINGS . . . . .</b>	<b>\$ 61,110.08</b>
BUDGET	
(For the fiscal year, June 1, 1967 to May 31, 1968)	
INCOME	
Membership Dues . . . . .	\$121,500.00
Scholarship and Loan Fund (from dues) . . . . .	8,875.00
Journal Advertising, Subscriptions . . . . .	47,500.00
Membership Directory Sales . . . . .	2,500.00
Annual Meeting . . . . .	17,000.00
Interest from Savings, Time Deposits . . . . .	3,900.00
Miscellaneous (AMA Commission) . . . . .	1,250.00
Postgraduate Courses . . . . .	1,400.00
<b>TOTAL INCOME . . . . .</b>	<b>\$203,925.00</b>
EXPENSE	
Fixed Expense . . . . .	\$ 90,000.00
Depreciation . . . . .	2,100.00
Councils and Committees	
Public Policy . . . . .	9,000.00
Insurance . . . . .	2,000.00
Professional Education . . . . .	4,000.00
Socio-Economic . . . . .	3,000.00
Public Health . . . . .	2,000.00
Prof. & Intervocational . . . . .	1,000.00
Scholarship and Loan Fund . . . . .	8,875.00
In-State-Travel . . . . .	5,500.00
Out-State-Travel . . . . .	14,200.00
Journal Expense . . . . .	44,000.00
Annual Meeting . . . . .	15,000.00
<b>TOTAL EXPENSES . . . . .</b>	<b>\$200,675.00</b>
<b>TOTAL PROFIT . . . . .</b>	<b>\$ 3,250.00</b>

be expected to generate need for additional financing, an exploration of new sources to earn income should be a part of the association's long-range planning activities. Similarly, it is likely that the headquarters building will need to be expanded in future years, and advance preparation for this contingency should be initiated.

#### Recommendations:

The Secretary-Treasurer and the Appropriations and Audit Committee make the following observations and recommendations:

1. It is recommended that the budget for the 1967-68 fiscal year be approved by the House of Delegates as a guide for the incoming administration (subject to adjustments as may be required by the effect of

House of Delegates' actions at the 1967 annual meeting).

2. It is recommended that the House of Delegates should be cognizant that the Report of the Council on Socio-Economic Activities requests an appropriation of funds from savings which has not been included in the budget herewith presented.

Moreover, the Secretary-Treasurer calls to your attention that the Board of Trustees has appropriated up to \$2,500 from savings to finance the campaign of Malcom E. Phelps, M.D. as a candidate for Vice-President of the American Medical Association.

At the meeting of the Appropriations and Audit Committee on April 30th, much discussion was devoted

to the question of utilizing association savings for non-capital expenditures.

Due to the fact that the new budgets for Councils and Committees of the association may exceed actual needs, it may not be necessary to finance the total requests of the aforementioned projects from savings, although approval of the Council on Socio-Economic Activities report will undoubtedly require some depletion of savings.

Without commenting on the merit of projected activities to be considered by the House of Delegates, the Secretary-Treasurer questions the advisability of depleting the association's savings accounts for non-capital expenditures. As previously mentioned, long-range planning should include a study of the need

for expanding the headquarters building.

Therefore, it is recommended by the Secretary-Treasurer that before withdrawals are made from savings for non-capital expenditures a study should be conducted by the association's Long-Range Planning Committee to determine anticipated demands on savings accounts to finance needed capital improvements.

3. It is recommended that the Long-Range Planning Committee, in addition to studying the need and financial wherewithal for a building expansion program, should appraise and make recommendations regarding new potential sources of earned income to finance a growth in activities by the Oklahoma State Medical Association.

The Long-Range Planning Committee shall conclude its study and prepare recommendations by September 1st, 1967, for presentation to the Board of Trustees.

Report of the  
PRESIDENT  
(APPROVED)

This will be my final opportunity as President to address the House of Delegates.

In all honesty, I must say that I am relieved to be completing my two-year tenure: One fruitful year in the apprenticeship of President-Elect, and one year as President . . . a position which reaps the credit or blame for the ups or downs of this which is called organized medicine.

But despite the end of my term as President—an honor for which I shall be eternally grateful to the House of Delegates—I have no intention of being put out to pasture.

Because I have learned that organized medicine is not the President:

—nor is it a small group of officers—

—nor is it our office staff—

—nor is it the bricks and mortar of our headquarters building—

—nor, indeed, is it the Board of Trustees or the House of Delegates.

Organized medicine in our state is over 2,000 physicians, and the image it creates, the successes it achieves or the failures it deserves, are di-

rectly related to the performance of each individual member of the Oklahoma State Medical Association.

So, you see, in stepping down as the figurehead of organized medicine, I am actually recapturing my status as an individual . . .

—I am the most important man in an organization which stresses individual rights and recognizes the power of the individual in the attainment of goals which dominate our collective interests.

—By my individual actions I can contribute more than any President toward the welfare of my patients, toward the integrity of my profession, and toward the earned respect the Oklahoma State Medical Association has in the eyes of the many publics which it attempts to serve or with which it co-exists.

At this annual meeting, you will receive and act upon the reports and recommendations of our officers, trustees, councils and committees. While you may not agree with all conclusions reached or the actions sought, please do not lose sight of the **individual** contributions of hundreds of your colleagues who have spent literally thousands of extra-curricular man-hours in worrying with problems and pursuing projects which affect us all.

I am deeply appreciative of the splendid force of physicians which has undertaken the bulk of the responsibility for carrying out the activities of the past year, and I am generally impressed with the co-operative spirit of all physicians throughout the state.

The past few years have seen more interest from the profession in the affairs of the OSMA, and yet we have a way to go in achieving optimum effectiveness.

—We have a good and growing group of physicians who are making extraordinary contributions to our programs. However, more younger men need to take part, and our continuing search for talented workers needs to be accelerated.

—There is a large block of our members who are apathetic (or fatalistic) toward the problems which confront us. Fortunately, in the face

of adversity, this group seems to be dwindling.

—A voice of dissent is present in our ranks, and this healthy sign not only demonstrates our freedom of action in organized medicine, but often has a beneficial influence on the policy decisions which are made.

—Fragmentation is present in medicine due to the very complexity of scientific progress. Special interest groups are necessary in our present scientific environment, but the national and state medical associations and their component societies—or so-called organized medicine—should remain as the cohesive force which unites all physicians.

The problems of today, particularly in the area of government medicine, completely overshadow those of yesterday. Tomorrow, we shall probably be confronted with either calamity, or controlled compromise, or overt conflict in our relationship with those governmental and private agencies which have mustered great forces to effect dramatic changes in the method of delivering and financing our professional services. Moreover, in the years ahead we shall see non-medical persons question our professional standards, and we shall feel the weight of economic sanctions never before experienced by any profession in the history of this country.

It would be ridiculous, therefore, for me to close my year as President by saying that our problems have been solved or that our future is bright.

The future is bleak, ladies and gentlemen.

Our medical associations, which are the only organizations dedicated to represent our interests and aims, are facing the odds of billions of tax dollars which are being focused upon research, training and health services—all of which exact controls against our professional mobility.

To lose heart, however, is out of character for our profession. We need not apologize to our detractors, for we have outperformed them in our record of progress and in our service to mankind.



To resign ourselves to defeat, at a time when there is evidence that the American people are at last feeling the price of paternalism, is unrealistic.

Adversity should inspire us to try harder to be better doctors, to build a better organization, to have the wisdom to separate right from wrong, and the courage to take a stand with unprecedented unity.

Thank you again for the honor you have given me.

I shall continue to serve my profession when called.

I shall strive to be a better physician.

I shall endeavor to become a better-informed and more active citizen in the important areas outside the immediate sphere of my practice.

I shall actively participate in organized medicine and I shall support the new President, Doctor Maxwell A. Johnson.

The Oklahoma State Medical Association is me—and it's you—and through our individual contributions to our organization we can determine our own destiny.

Report of the  
GRIEVANCE COMMITTEE  
(APPROVED)

*Committee Members*

Clinton Gallaher, M.D., Shawnee, Chairman

Joe L. Duer, M.D., Woodward

J. Hoyle Carlock, M.D., Ardmore

Harlan Thomas, M.D., Tulsa

Rex Kenyon, M.D., Oklahoma City

The Grievance Committee is pleased to report a rather inactive year in its assigned responsibility of negotiating the voluntary settlement of grievance matters properly brought before its jurisdiction.

Complaints have been relatively unimportant and, for the most part, outside the committee's jurisdiction. Crank letters and personal grievances are best adjusted directly by the parties involved.

A recent complaint was apparently motivated by the desire to avoid payment.

The Chairman of the Grievance Committee is somewhat disappoint-

ed with the committee's effect; not with respect to the members of the committee, but with regard to the rather insignificant impact the activity has made upon the improvement of physician-patient relationships.

However, the service still provides a mechanism for the presentation of complaints, and it should be continued.

Report of the  
COUNCIL ON PUBLIC HEALTH  
(APPROVED)

*Council Members*

Hayden H. Donahue, M.D., Norman, Chairman

Nolen Armstrong, M.D., Oklahoma City

Paul A. Bischoff, M.D., Tulsa

Wayne J. Boyd, M.D., Bartlesville

Carl D. Osborn, M.D., Ada

Gifford H. Henry, M.D., Tulsa

Robert L. Loftin, M.D., Broken Bow

A. B. Colyar, M.D., Oklahoma City

Robert E. Herndon, M.D., Chickasha

George H. Guthrey, M.D., Oklahoma City

Bert T. Brundage, M.D., Thomas

Eugene A. Owens, M.D., Lawton

Joseph W. Kelso, M.D., Oklahoma City

William N. Weaver, M.D., Muskogee

*Committee on Immunization*

Nolen Armstrong, M.D., Oklahoma City, Chairman

Charles L. Freede, M.D., Oklahoma City

J. Walker Morledge, M.D., Oklahoma City

*Safety Committee*

Robert E. Herndon, M.D., Chickasha, Chairman

Joe L. Spann, M.D., Tulsa

Marvin K. Margo, M.D., Oklahoma City

Rheba Edwards, M.D., Norman

W. C. Click, M.D., Norman

SECTION I

SPECIAL COUNCIL ACTIVITIES

*A. Cornell Automotive Crash Injury Research Study:* The Board of Trustees approved OSMA participation in this project on July 14th, 1963.

The Cornell Automotive Crash Injury Research was a two and one-half year research project designed to obtain reliable data on the fre-

quency, nature and specific causes of injury to occupants of passenger cars and trucks involved in accidents. Medical data submitted by physicians treating accident victims was matched with information on injury causes and accident data supplied by investigating state patrol officers. This information was then transmitted to Cornell University for analysis and statistical tabulation. Cornell's findings were finally turned over to automobile manufacturers in the form of recommendations for improvement in safety design and engineering features.

The study, which officially began January 1st, 1964, ended on June 30th of 1966. Taking two Oklahoma Highway Patrol Districts in a given six-month period and confining the study to counties within those assigned districts, the study, now that it is complete, has been published in booklet form by Cornell University—giving statistical findings in Oklahoma on automobile and truck accidents. Cooperating in the study were: State Health Department, Oklahoma State Medical Association, Oklahoma Hospital Association, and the Oklahoma Department of Public Safety.

While the aforementioned study was successfully conducted, Cornell University is embarking on a new study. This study will focus on accidents involving automobiles five years old or less.

*Recommendation:*

The Council on Public Health recommends that the OSMA participate in the new proposed study, to be conducted by Cornell University, involving accidents where the model of the automobile is five years old or less. This study is tentatively scheduled to begin in July and will follow the same pattern where collection and use of statistical data are concerned.

*B. Oklahoma Interagency Council on Smoking and Health:* On July 26th, 1964, the OSMA Board of Trustees approved participation by this Council in the educational endeavors of the Oklahoma Interagency Council on Smoking and Health. The House of Delegates last May ap-

proved continued participation and medical leadership in the work of this body.

The cooperative group is comprised of representatives from the Oklahoma State Medical Association, Oklahoma Tuberculosis Association, Oklahoma Heart Association, Oklahoma Division of the American Cancer Society, State Department of Health, State Department of Education, State Thoracic Society, and the Indian Health Service. OSMA representatives are Hayden H. Donahue, M.D., Edward R. Munnell, M.D., and Mr. Dwight F. Whalen, OSMA Associate Executive Secretary.

The Council is organized to encourage, coordinate and support existing educational programs designed to discourage young people from smoking and to assist with the development of new programs toward this end. Primarily, the educational programs are geared toward junior and senior high school students throughout Oklahoma.

Through the work of this body, schools have immediate access to immense educational pamphlets and films relating to the subject of cigarette smoking and health.

#### *Recommendation:*

The Council on Public Health recommends continued participation and medical leadership in the Oklahoma Interagency Council on Smoking and Health.

*C. Second Statewide Conference on Mental Health and Retardation:* In February of 1965, the First Statewide Conference on Mental Health and Retardation was successfully conducted in Oklahoma City. On February 9th of this year, the second such conference was conducted in Oklahoma City's Skirvin Hotel.

This event was sponsored by the Oklahoma State Medical Association in cooperation with the State Department of Mental Health, State Department of Public Welfare, State Health Department, Oklahoma Association for Mental Health, Governor's Office, Oklahoma Legislature and the American Medical Association.

The purpose of the conference was to bring together all related groups having an interest in mental health

and retardation in Oklahoma and the nation, and to allow them to expound on the current problems and developments in the field of mental health—in order to keep Oklahomans abreast of the current situation and developments.

More than 1,000 Oklahomans attended. The program featured an illustrious cast of speakers, including top officials from state and federal governments as well as professional mental health leaders of national stature.

Expenses incurred for conducting the conference were borne by a \$2,500 grant made available through the AMA's Department of Mental Health.

#### *Recommendation:*

The Council on Public Health recommends sponsorship of the Third Statewide Conference on Mental Health and Retardation at an acceptable date in 1969, when the Thirty-second Oklahoma Legislature will be in session; provided, however, that adequate financial assistance is made available by the AMA and others and, provided further, that the Council considers sponsorship worthwhile.

*D. Governor's Committee on Emergency Medical Services:* In October of 1966, Governor Henry Bellmon created the Governor's Committee on Emergency Medical Services. The request for information of this committee was officially made to the Governor in September by the newly organized Oklahoma Ambulance Association. Subsequently, the OSMA's Council on Public Health, the Oklahoma Hospital Association, State Health Department, Oklahoma Funeral Directors Association, Oklahoma Department of Public Safety, Oklahoma Safety Council, Oklahoma College of Surgeons, Oklahoma League of Municipalities, and the Oklahoma Bar Association concurred in creating and functioning with this committee.

Governor Bellmon, in early November, appointed one representative each from the aforementioned organizations to comprise the new body. Marvin K. Margo, M.D., Oklahoma City, was named by Governor Bellmon as the Oklahoma State Med-

ical Association's representative. Upon taking office in January, Governor Dewey Bartlett reconfirmed Doctor Margo's appointment.

Since last Summer, much concern has been generated throughout Oklahoma and the nation over the growing number of cities who have either lost or are facing loss of privately operated ambulance services. It was primarily due to this increasing problem that the Governor's Committee on Emergency Medical Services was formed.

Approximately two years ago, the U.S. Department of Labor interpreted the Federal Wage and Hour Act to include coverage of employees for those firms providing ambulance services. Last Summer, investigators from the Wage and Hour Division of the Department of Labor were concentrated in the States of Oklahoma, Texas, Arkansas and Florida to check those persons, including funeral directors, who were providing ambulance services. As a result of these investigations, many funeral directors in the above mentioned states, realizing that the losses they were already absorbing in providing ambulance services would become even more unreasonable, decided to discontinue the providing of this service.

In addition, requirements placed on ambulance companies under the "Medicare Law," which set standards of training for ambulance personnel and equipment, furthered the decision reached by many funeral directors.

As of April 17th, 1967, approximately 20 Oklahoma communities have lost ambulance service through discontinuance by funeral directors. Some of these cities include Mangum, Sayre, Sallisaw, Wilburton, Stigler, Sulphur, Ponca City, Enid, Hartshorne, Elk City and Chickasha. Funeral directors in at least a dozen other communities have given notice that they will discontinue ambulance service in the immediate future. Some of these cities include Hominy, Pawhuska, Vinita, Tahlequah and Nowata. Moreover, at least 25 additional funeral directors have given notice that they will



discontinue providing ambulance services once an alternate plan is worked out for some other source to provide such services.

The Governor's Committee on Emergency Medical Services concluded at its initial November 2nd meeting that acceptable legislation should be drafted and introduced into the Thirty-first Legislature, which would permit county commissioners to contract with municipalities for the providing of ambulance services—when funding assistance is officially requested by a municipality.

Such a bill was introduced on January 10th in the form of Senate Bill No. 48. SB 48 provides that upon request by municipalities, county commissioners could negotiate a contract for the providing of ambulance services and assist in underwriting a portion of the operating cost. At the time this report was written SB 48 had passed the Senate and was on House general order. Enactment of this bill will go far toward offering an alternate approach in financing the operation of ambulance services in given areas of the state.

The Governor's committee further concluded at its first meeting that steps should be taken to make available to counties in the state, training courses for ambulance drivers and attendants, law enforcement personnel and others concerned with the care and transportation of the sick and injured.

This Governor's committee has already successfully conducted two such courses this year. The courses, referred to as "Immediate Care of the Sick and Injured," were conducted in Tulsa April 17th-18th, and in Oklahoma City on April 27th-28th. In both cases, the Tulsa and Oklahoma County Medical Societies assisted in sponsoring and supplying faculty for the courses. Faculty included physicians as well as representatives of the fire departments and the Oklahoma Highway Patrol.

Topics covered included emergency childbirth, external cardiac compression, care and transport of

head and spinal injuries, and legal implications. Demonstrations on injury identification, splinting, mouth-to-mouth respiration, and external cardiac compression supplemented the presentations.

Both courses were well attended and others will be scheduled throughout the state in the future.

Doctor Marvin Margo attended the AMA Conference on Emergency Medical Services, held in Chicago on April 6th-7th, as the OSMA representative. This was a preliminary program with workshops on first aid and rescue, transportation of the ill and injured, emergency communications, and emergency facilities relating to staffing and patient management.

#### *Recommendation:*

The Council on Public Health recommends continued support of and cooperation with the Governor's Committee on Emergency Medical Services.

*E. Miscellaneous Activities:* Under the heading of miscellaneous activities of the Council on Public Health, your Council would simply like to report that Carl D. Osborn, M.D., member of this Council and the State Board of Health, attended the 20th National Conference on Rural Health as the OSMA's representative. The conference was held in Charlotte, North Carolina, on March 10th-11th, 1967.

Moreover, Albert J. Glass, M.D., Oklahoma's Director of Mental Health, attended the 13th Annual Conference of State Mental Health Representatives as the OSMA's official representative. This event was held in Chicago on February 24th-25th.

## SECTION II

### COMMITTEE ON IMMUNIZATION

The Council on Public Health asked for and received approval from the OSMA Board of Trustees on July 26th, 1964, to create a special three-man Committee on Immunization.

The primary function of this committee is to work with and assist the State Health Department in developing and implementing a statewide year-round program on immunization education.

This year, as in the past, waiting room posters, quantities of health record cards and immunization education folders were made available to OSMA members for use in their offices.

In addition, representatives of the State Health Department have made numerous speeches before public school audiences and other groups, calling attention to the need for proper periodic immunizations against dread diseases.

#### *Recommendation:*

Your Council recommends that the three-man Committee on Immunization continue to function in an advisory capacity with the State Health Department in an effort to lend medical guidance in the area of statewide immunization education.

## SECTION III

### SAFETY COMMITTEE

Approximately five years ago, the Oklahoma Department of Public Safety proposed to the Oklahoma State Medical Association that a medical advisory board be established for the purpose of reviewing licensed drivers with questionable physical or mental conditions. Three years ago, a bill establishing such a board was introduced into the Oklahoma Legislature but met defeat in committee.

On November 6th, 1966, the Department of Public Safety and the State Health Department requested the OSMA Council on Public Health to assist in the establishment of an advisory committee. The Council appointed this special Safety Committee to work with the Department of Public Safety in drafting proposed legislation which would authorize creation of such an advisory committee and, at the same time, provide immunity from liability to physicians serving on such a committee.

Your Safety Committee and the Department of Public Safety drafted and subsequently introduced House Bill No. 807 on March 1st. The bill provides for the creation of the Driver's License Medical Advisory Committee. HB 807 grants authority to this committee to recommend standards for determining the physical, emotional and mental capacity of



applicants for drivers licenses, and holders of driver's licenses, and in questionable cases of ailment or disability, the committee would consider each case in light of said standards and the individual's own compensating abilities in making its recommendations to the Department of Public Safety.

House Bill 807, with assistance from the OSMA State Legislative Committee, passed the House and Senate and was signed into law by Governor Bartlett in late April.

Members of the new statutory committee will include an internist, vision specialist, orthopedic surgeon, neurologist and psychiatrist.

#### *Recommendation:*

The Council on Public Health recommends continuation of the Safety Committee as a vehicle to assist the Department of Public Safety in carrying out the provisions of House Bill No. 807.

#### Report of the COUNCIL ON INSURANCE (APPROVED)

##### *Council Members*

C. E. Woodard, M.D., Tulsa, Chairman

C. Alton Brown, M.D., Oklahoma City

Richard H. Burgtorf, M.D., Shattuck

Maurice Gephardt, M.D., Muskogee

James W. Murphree, M.D., Ponca City

Jack D. Fetzer, M.D., Woodward

Paul H. Rempel, M.D., Enid

Robert W. Kahn, M.D., Oklahoma City

Samuel R. Turner, M.D., Tulsa

#### SECTION I

##### *DISABILITY INCOME PROGRAM*

The disability income insurance program is underwritten by the Insurance Company of North America and administered by C. L. Frates and Company, an Oklahoma City insurance agency.

There are 861 members of the OSMA protected under the program. Since the plan began in 1961, over \$828,000 has been collected in premiums and nearly \$467,000 has been paid in claims or reserved for losses, developing an acceptable loss ratio of 57 per cent. In 1966 alone, \$98,-

748.37 was paid to Oklahoma physicians.

The program offers a benefit structure comparable to the best on the market, and when premiums are compared to benefits, the OSMA plan is estimated to be eight to 12 per cent less expensive than competitive programs made available to Oklahoma physicians by other medical organizations.

OSMA's program is not only superior to its competition today, but its stability is demonstrated by the fact that no rate increases have been deemed necessary by INA since the program began six years ago; moreover, the benefit structure has been liberalized due to the favorable loss experience accruing from an actuarially sound insurance plan.

The primary reason for the stability of the OSMA program lies in the volume of enrollment of Oklahoma physicians. When 861 out of 2,000 OSMA members participate, there is no "adverse selection" as in the AMA's program which enrolled only 40,000 out of the nation's physician-population of 300,000.

AMA's program has apparently failed from an actuarial standpoint, and what it will be after the present contract with Continental Casualty expires in September is uncertain at this time (it will be considered by the AMA House of Delegates in June).

Regardless of the AMA decision, however, its program after September 1st will probably continue to have a one-year waiting period before benefits begin. The value of this type program can be best illustrated by national statistics which reveal that 98 per cent of disability claims terminate within the first year. In OSMA's experience with the INA program, only three claims have lasted longer than nine months during the past four years.

OSMA's program allows a physician to select from a number of waiting period options as well as the monthly indemnity he chooses to carry (\$200 - \$300 - \$400 - \$500 - \$600 - \$700 - \$800). He may also select from three options as to the duration of payments for sickness disability

—three years, five years, or to age 65—and benefits are payable for life in every case for disability due to accident.

An optional feature of the OSMA-INA plan provides \$15 per day hospitalization benefit for up to 120 days per illness at the nominal premium rate of \$18 per year.

#### SECTION II

##### *OVERHEAD EXPENSE PROGRAM*

The overhead expense program is underwritten by the Continental Casualty Insurance Company through the C. L. Frates agency.

This program is designed to indemnify physicians against the costs of keeping their offices open during periods of disability.

Up to \$1,000 a month for necessary office expenses is available under the program, and such expenses may include the employment of a substitute practitioner. Benefits are payable for 18 months, six months longer than most competing plans. The waiting period is optional, either 15 or 30 days.

There are 160 physicians participating in the program at a total annual premium rate of more than \$21,000 a year. The loss ratio is only 24 per cent, favorable enough to expect a premium reduction or expansion of benefits.

#### SECTION III

##### *GROUP TERM LIFE INSURANCE*

The life insurance program is underwritten by the Massachusetts Mutual Life Insurance Company and is administered by Wilson and Wilson General Agency, Oklahoma City.

For the year ending as of March 31st, 1967, 351 members of the association were insured. This enrollment figure is most gratifying as a trend of decreasing enrollment prevailed up until this year. The administrator has engaged the services of three additional insurance men who help call on members of the association, encouraging them to participate in the group life program as well as the disability income program.

The total amount at risk for life insurance as of March 31st, 1967, was

# SECTION IV PROFESSIONAL LIABILITY INSURANCE

\$5,027,875 and an additional \$4,987,875 of accidental death benefit. During the past 12 months, actual paid claims have been incurred amounting to \$18,620.

The annual premium collected for the past 12 months of coverage amounted to \$43,750. As a result, the overall experience for the past year has been most favorable as compared to claims paid.

An underwriting profit will be recorded for the year. However, as of the last anniversary, a total underwriting deficit from the inception of the plan existed in the amount of \$139,933.60. The current underwriting gain will be used to decrease the accumulated loss. Approximately \$1,000,000 of benefits have been paid since the Massachusetts Mutual underwrote the coverage in 1956.

As a greater amount of effort is being expended in individually calling upon members of the association, an increased amount of enrollment should be expected during the next 12 months. The administrator has inquired from the insurance company when the resumption of dividends will be expected assuming the favorable claim experience of the current year is continued into 1968. The solvency of the plan has increased considerably during the past two years because of fewer death claims, and as a result the possibility of dividend resumption is probable.

The program provides for a level premium of \$125, and the amount of death benefit is based upon the individual's age. For example, it is \$31,750 at age 30, \$21,625 at age 40, and \$10,375 at age 50.

In addition to the basic death benefit, the plan provides double indemnity for accidental death (triple if on a common carrier), waiver of premium for disability, private flying coverage, dismemberment and loss-of-sight coverage, the full range of the company's settlement options, and convertability to ordinary life insurance at any time without further evidence of insurability.

As a result of House of Delegates action on December 10th, 1966, the association discontinued its endorsement of the St. Paul Fire and Marine Insurance Company as the preferred professional liability insurance carrier and recommended the Insurance Company of North America as the approved carrier beginning January 1, 1967.

The justification for this decision was carefully documented in an 11-page report prepared by your Council on Insurance and presented to the House of Delegates.

Although representatives of the former carrier stated repeatedly in justification of rate increases that their company had suffered a net loss as a result of its long-term relationship with the OSMA, the association's decision to change insurance carriers provoked an aggressive campaign by St. Paul to retain the professional liability coverage of Oklahoma physicians.

This action demonstrates the nature of the problem with St. Paul better than any statements your Council on Insurance might make. It would appear that this company has experienced profits substantial enough to justify a concerted campaign to thwart the will of the House of Delegates, and yet the rate increase imposed by St. Paul last June over the objections of the OSMA was said to be necessary in the face of overall company losses throughout the 14-year history of the program.

At any rate, the St. Paul sales campaign since last December has created problems for the Council on Insurance and the Insurance Company of North America in converting physicians to the new plan as their St. Paul policies expire.

Your Council on Insurance is confident that a stronger program can be developed in cooperation with the Insurance Company of North America, but the support of the profession will be needed in order to broaden the base of enrollment.

After the first three months of offering the new program, more than

one-half of OSMA members are converting to INA coverage and the rate of enrollment in the association-sponsored plan continues to improve.

The competition has been spirited, and representatives of the former carrier have apparently misrepresented the INA program in many instances.

Here is a brief review of the facts:

1. The rates of INA and St. Paul are identical (slightly below other major companies).

2. The quality of the competing insurance contracts is virtually identical, but INA is explicit on some coverages where the St. Paul form merely implies company liability.

3. INA offers up to a 10 per cent premium dividend (based upon 1,000 physician participants and favorable loss experience). St. Paul does not.

4. INA has agreed by separate contract to report losses to the OSMA in a manner which will clearly reflect the need for premium increases or reductions. As previously stated, St. Paul's persistent reports of long-range losses on the OSMA account are incompatible with the company's current efforts to retain the business.

5. INA has demonstrated enthusiasm to curb losses by the co-sponsorship of claims prevention activities. The "Malpractice University" section program held during this annual meeting is an example of company cooperation.

6. Both companies have excellent claims service and defense counsel.

7. INA will furnish to the OSMA a certified list of all insureds in order to provide protection to association members in establishing company liability if policies are lost. St. Paul would not provide this service.

8. The OSMA relationship with INA for a period of seven years in connection with the disability income insurance program has been excellent. OSMA's relationship during recent years with St. Paul has been unsatisfactory.

9. INA is the oldest casualty insurance company in the United States, and it is one of the largest, with assets of two billion dollars. It is nearly four times as large as the former carrier.



10. There is great value to the insured physician in purchasing his insurance with a company having a formal contract and a cordial relationship with the association.

To date, no claims have been reported against the INA program.

An intensive educational program in claims prevention is being planned for implementation from September, 1967 through May, 1968.

#### SECTION V

##### *Recommendations:*

1. Because of the competitive situation which threatens to divide the association's professional liability coverage, and thereby weaken the financial base of the program, the House of Delegates is requested to reaffirm its endorsement of December 10th, 1966 for the professional liability plan of the Insurance Company of North America.

2. Members of the House of Delegates, as representatives of their respective county medical societies, are requested to read this report to their colleagues at the earliest opportunity and to encourage them to take advantage of all of the beneficial insurance programs made available through the OSMA.

#### Report of the COUNCIL ON PROFESSIONAL AND INTERVOCAATIONAL RELATIONS (APPROVED AS AMENDED)

##### *Council Members*

Orange M. Welborn, M.D., Ada,  
Chairman

Mark R. Johnson, M.D., Oklahoma  
City

Jerold D. Kethley, M.D., Shawnee

Dave B. Lhevine, M.D., Tulsa

C. William Simcoe, M.D., Tulsa

Richard D. Stansberry, M.D., Okla-  
homa City

John R. Taylor, M.D., Kingfisher

Burdge F. Green, M.D., Stilwell

Maxwell A. Johnson, M.D., Tulsa

J. L. Haddock, M.D., Norman

E. H. Shuller, M.D., McAlester

Jack D. Spencer, M.D., Oklahoma

#### SECTION I

##### *THE COUNCIL*

The Council on Professional and Intervocational Relations for the past year has been one of experience, experiment, disappointment, success, and reappraisal. We have endeav-

ored to function informally by dealing with the problems before the Council as each occurred and by the effort of appropriate council members to meet each problem. We have seen increased activities in the field concerned with chiropractic and pharmacy and the need for re-evaluation of the problems concerning osteopathy and medicolegal relations. Nursing is a field requiring constant liaison as is perhaps medicine and religion. The Council feels specific committees in each of these areas are required to continue to develop a consistent program in the relationship between medicine and each of the other professions or fields.

##### *A. Chiropractic, Cults and Quackery:*

The Council, through the Committee on Chiropractic, Cults and Quackery, has compiled a vast document file with particular reference to misleading advertising by chiropractors both in newspapers and on television. Senate Bill No. 116, which was introduced in the Oklahoma State Senate, would have prohibited individual chiropractors from advertising in common news media. This bill was endorsed by our own State Legislative Committee. The bill, successfully guided out of the legislative committee with a "do pass" motion, met unexpected resistance by the Oklahoma Press Association and was recommitted and is now buried for this session. The Council hopes that concerted effort in informing the OPA and its directors of the dangers of chiropractic and other cults might enlist their support of this and similar legislation.

In October, 1966, the Third National Congress on Quackery in Chicago was attended by two State Senators, John L. Garrett of Del City, and Ernest D. Martin of Ardmore, and two State Representatives, Barbour Cox of Chandler, and C. H. Spearman, Jr. of Edmond, and by Raymond F. Hain, M.D., Chairman of the State Legislative Committee, Orange M. Welborn, M.D., Chairman of the Council on Professional and Intervocational Relations, and OSMA staff members, Mr. Don Blair and

Mr. Dwight Whelan. This was most successful in informing these influential legislators of the dangers of chiropractic and other cults and other forms of quackery. They have helped to support and implement legislation to control such irregular practitioners and to protect the people of Oklahoma. Unfortunately, too few legislators have been informed of the true nature of quacks and quackery. To inform and spread the word seems a most vital function of the Committee on Chiropractic, Cults and Quackery.

##### *Recommendations:*

It is recommended that the activities of the Council on Professional and Intervocational Relations be continued with special efforts being made to broaden the activities of the Committee on Chiropractic, Cults and Quackery and liaison with other interested groups for a program of education for the press, the legislators and the Oklahoma public, and to seek appropriate legislation for the correction of many abuses in this field.

#### SECTION II

##### *COMMITTEE ON PHARMACY*

In March, 1966, the Oklahoma State Board of Pharmacy issued regulations governing drug control and dispensing in hospitals. The Committee on Pharmacy studied the "Hospital-Pharmacy Regulations" and found that they would impose undue hardship on most hospitals, that such regulations represented a departure from the traditional role of hospitals and their necessary activities for functioning as a hospital, and that the regulations were completely unworkable. The Committee on Pharmacy met with the State Board of Pharmacy and the Oklahoma Hospital Association in April, 1966, but was unable to reach a workable accord. These facts were brought before the House of Delegates at the last annual meeting, and the House of Delegates adopted a recommendation of this Council stating:

"In the event the Oklahoma State Board of Pharmacy does not withdraw or satisfactorily amend its regulations governing hospital pharmacies and drug rooms, it is rec-



ommended that the Oklahoma State Medical Association's State Legislative Committee undertake specific legislation to clearly place the hospital pharmacy operation under the authority of the Oklahoma State Board of Health."

Several months passed, and the State Board of Pharmacy heard a huge cry of anguish from druggists in smaller towns where hospitals would be forced to hire registered pharmacists in compliance with the regulations, and practical economics would force the hospitals to become dispensing pharmacies to the general public. The Board of Pharmacy then decided the regulations were not the answer to the problem. Members of the Committee on Pharmacy and representatives of the Oklahoma Hospital Association were again called into conference with the Executive Secretary of the Oklahoma State Board of Pharmacy. It was learned that the Board was influenced by an Attorney General's opinion of September 13th, 1965, stating that the present law authorized regulation of hospital drug rooms and pharmacies by the Board of Pharmacy. However, the practical fact remained that this was a field in which the Board had no experience nor ability to regulate. This proved to be a dilemma. In compliance with the direction of the House of Delegates in May, 1966, legislative action was sought by the OSMA and the Oklahoma Hospital Association.

Senate Bill No. 346 was introduced by Senators McGraw and Smith. This bill specified that the State Board of Health, with the advice of the State Hospital Advisory Council and the State Board of Pharmacy, shall adopt rules and regulations for the dispensing and storage of medicine in hospitals. The original bill, after negotiated amendments, met with the approval of the Oklahoma State Medical Association, the Oklahoma Hospital Association, the Oklahoma Pharmaceutical Association, and the Oklahoma State Board of Pharmacy. It solved the problem by keeping the regulation of hospitals

and related internal functions under the Board of Health where it has always been and should remain. It kept the State Board of Pharmacy "off the hook" and was acceptable to the pharmacists, the hospitals, and the medical profession. The bill was reported out of committee favorably with a "do pass" recommendation, but failed.

#### *Recommendations:*

It is recommended that the activities of the OSMA Committee on Pharmacy be continued on an indefinite basis and that it continue in its efforts to clarify the problems of jurisdiction on regulations for dispensing and storing of medicines in hospitals through appropriate legislation, and that it continue its general liaison efforts with the profession of pharmacy.

### *SECTION III*

#### *COMMITTEE ON OSTEOPATHY*

Osteopathy has been and still remains a primary concern of this Council. The House of Delegates adopted a policy in reference to osteopathy in 1965. In 1966, it adopted a guideline for implementation of the OSMA policy on osteopathy. Final authority on the implementation of any professional association with doctors of osteopathy rests with the local medical society.

Several societies have acted along the guidelines outlined by the Committee on Osteopathy. Oklahoma County has approached the problem diligently and with caution. It has submitted the names of six osteopaths as acceptable for professional association. Also presented were one osteopath from Hugo and three from Lindsay, Oklahoma.

It is apparent there is a need for clarification of the implementation guidelines recommended by the Committee on Osteopathy, for a review of the method of implementation of the policy, and further clarification of the policy itself. Much needs to be done in this field and our approach has been and should be one of cautious progress with our objective being primarily to protect the quality of ethical medical practice for the people of Oklahoma.

#### *Recommendations:*

1. It is recommended that the activities of the OSMA Committee on Osteopathy be continued on an indefinite basis with renewed study of the problems concerned with clarification of the OSMA policy on osteopathy and clarification of the guidelines for implementation of this policy.

2. It is further recommended that a subcommittee be authorized for the purpose of receiving questions pertaining to professional relationships with osteopathy and osteopaths and to make recommendations concerning the disposition of such questions.

### *SECTION IV OTHER ACTIVITIES*

#### *A. Nursing*

Liaison with nursing has presented no particular problem in this past year. Our OSMA Legislative Committee was successful in exempting from a law defining the practice of nursing, "Any trained assistant working under the general supervision and control of a licensed physician." There is a need for continuing liaison and study of nursing and activities of the Oklahoma State Nurses Association. The Council feels it appropriate to mention that it recognizes the mounting shortage of trained nursing personnel for the providing of bedside nursing care.

#### *B. Medicolegal*

Implementation of the revised Medicolegal Interprofessional Code remains to be carried out on a state level. The success of the "Medicolegal Institute" at Fountainhead Lodge on July 14th-16th (sponsored by the Oklahoma County Medical Society and the Oklahoma County Bar Association) served to prove a need for further liaison with the Oklahoma Bar Association. Many problems are shared by both medicine and law, and coordinated efforts can be mutually advantageous to both associations.

#### *C. Medicine and Religion*

The problems on medicine and religion were observed by the Council as a whole. The Council asked Edward K. Norfleet, M.D., to attend the Conference on Medicine and Re-

ligion in Chicago in February, 1967. It is Doctor Norfleet's opinion that there is renewed interest in this field and new areas of study and liaison which need to be covered by activities of this committee.

#### *Recommendations:*

1. In order to insure a greater number of individuals trained in the skills of bedside care, it is recommended that the scope and size of the Committee on Nursing be expanded.

2. It is recommended that the Committee on Medicolegal Relations be extended on an indefinite basis and that it seek to implement the "Medicolegal Interprofessional Code" and to continue liaison with the Oklahoma Bar Association in studying our mutual problems.

3. It is recommended that the Committee on Medicine and Religion be continued and should implement further study for an appropriate program on medicine and religion on a statewide basis.

#### Report of the COUNCIL ON PUBLIC POLICY (APPROVED AS AMENDED)

##### *Council Members*

Kieffer D. Davis, M.D., Bartlesville,  
Chairman

Frank W. Clark, M.D., Ardmore

Tom S. Gafford, Jr., M.D., Muskogee

Joe C. Horton, M.D., Frederick

F. David Kalbfleisch, M.D., Lawton

Lloyd A. Owens, M.D., Oklahoma  
City

Harlan Thomas, M.D., Tulsa

M. H. Newman, M.D., Shattuck

Howard A. Bennett, M.D., Tulsa

Jack H. Foertsch, M.D., Chickasha

Raymond F. Hain, M.D., Oklahoma  
City

Floyd T. Hubbard, M.D., Henryetta

Rex Kenyon, M.D., Oklahoma City

Thomas C. Points, M.D., Oklahoma  
City

##### *State Legislative Committee*

Raymond F. Hain, M.D., Oklahoma  
City, Chairman

David C. Ramsay, M.D., Ada

Richard D. Stansberry, M.D., Okla-  
homa City

C. William Simcoe, M.D., Tulsa

C. Riley Strong, M.D., El Reno

Hayden H. Donahue, M.D., Norman

Harlan Thomas, M.D., Tulsa

Thomas C. Points, M.D., Oklahoma  
City

Bertha M. Levy, M.D., Oklahoma  
City

Edward W. Young, Jr., M.D., El  
Reno

Kieffer D. Davis, M.D., Bartlesville

John W. Drake, M.D., Oklahoma  
City

Mrs. John Drake, Oklahoma City

##### *Medical Heritage Committee*

George H. Garrison, M.D., Oklahoma  
City, Chairman (and Mrs. Gar-  
rison)

W. A. Starkey, M.D. (and Mrs.  
Starkey), Altus

Wm. R. Paschal, M.D. (and Mrs.  
Paschal), Oklahoma City

Joe L. Duer, M.D. (and Mrs. Duer),  
Woodward

Henry Traska, M.D. (and Mrs.  
Traska), Oklahoma City

E. C. Mohler, M.D. (and Mrs. Mohl-  
er), Ponca City

J. F. York, M.D. (and Mrs. York),  
Madill

Clinton Gallaher, M.D. (and Mrs.  
Gallaher), Shawnee

#### SECTION I

##### COUNCIL ACTIVITIES

The Council assumed primary juris-  
diction during the past year for fed-  
eral legislative activities and for  
public relations, while state legis-  
lative activities and medical herit-  
age programs were carried out by  
special committees (reported in Sec-  
tions II and III).

##### *Federal Legislative Activities:*

It has been an "off year" at the  
federal level since major health  
legislation had been acted upon by  
the 89th Congress prior to the Coun-  
cil's appointment, then several  
months lapsed between the adjourn-  
ment of the 89th and the convening  
of the 90th Congress in January.

Your Council spent the interim pe-  
riod, however, in working with the  
American Medical Association to set  
up a pilot "Task Force" in one of  
Oklahoma's Congressional Districts.  
A small group of carefully selected  
physicians and auxiliary members  
have been established on a long-  
term basis to serve as a well-in-  
formed cadre for liaison with the  
Congressman.

The theory behind this approach to  
legislative liaison is that few health  
issues attract widespread public in-  
terest as in the case of Medicare.  
So, rather than massive public in-  
formation programs as were impor-  
tant over the years in the Medicare  
campaigns, the idea is to quietly  
provide members of Congress with  
authoritative medical advice on ap-  
propriate bills, and to do so through  
a group of medical representatives  
who command the respect of their  
Congressman.

If the pilot program in Oklahoma  
is successful, it will be installed in  
other Congressional Districts in  
Oklahoma and throughout a four-  
state region.

Since the Board of Trustees and  
the Board of Directors of OMPAC  
have organized a combination trip  
to Washington, D.C., to attend a na-  
tional workshop on political action  
committees and to visit the Okla-  
homa Congressional Delegation, a  
separate Congressional Contact Tour  
has not been planned by the Council  
on Public Policy.

As predicted, many amendments  
to the Medicare Law were introduced  
on February 20th in the 90th Con-  
gress. The Administration's bill is  
labeled H.R. 5710.

Amendments opposed by the AMA  
include:

1. Coverage of disabled persons  
under age 65 with Medicare benefits.

2. Provision to pay federal hos-  
pital facilities for care to Medicare  
beneficiaries.

3. Coverage of podiatry services  
for inpatient care.

4. Compulsory hospital planning.

5. A new Part C to cover pay-  
ment for hospital outpatient services  
and diagnostic specialty services to  
both outpatients and inpatients of  
hospitals.

Amendments contained in H.R.  
5710 which the AMA approves are:

1. To discontinue the requirement  
for a physician to certify medical  
need at the time of hospitalizing a  
Medicare patient.

2. To establish an Advisory Coun-  
cil in the administrative setup of  
Title XIX.



In addition, the AMA is proposing further amendments, such as:

1. That Title XVIII permit payment of charges for professional services on the basis of a physician's itemized statement of charges rather than a receipted bill.

2. That Title XVIII no longer require a patient to be hospitalized for three days in order to qualify for extended care benefits.

3. That the 190-day lifetime limit for care in a psychiatric hospital be dropped in favor of providing equal benefits to the mentally ill.

4. That "customary and reasonable" charges be specifically recognized in the Title XIX program.

5. That Title XIX encourage the use of private carriers.

6. That Title XIX not include any requirement for certification or recertification.

7. That Title XIX permit variability of eligibility standards according to the differing economic environments within a state.

8. That Title XIX mentally ill beneficiaries be entitled to treatment in a psychiatric hospital.

9. That Title XIX permit payment to the patient for services rendered to him by a physician on the basis of the physician's itemized statement of charges.

Finally, the AMA has continued to express general opposition to the entire concept of Title XVIII of Medicare, and has suggested in its testimony before the House Ways and Means Committee that the government abandon this troublesome and ill-conceived program by simply providing a subsidy to all eligible persons toward their purchase of private health insurance.

Another federal bill to receive prominent attention as the 90th Congress begins to hit its stride is S. 260, the "Medical Restraint of Trade Act."

This bill, if enacted, would prohibit the sale by physicians of drugs or devices prescribed by such practitioners and the knowledgeable receipt of rebates, commissions or other considerations in connection

with the supplying of such products to patients. The AMA is opposing this measure, calling it restrictive and discriminatory.

S. 283 would provide federal grants to states to conduct a "complete and continuing" program of health planning.

A state plan for health-care facility planning would have to provide: For health-care facility planning in all political subdivisions of the state; for financial participation by the state; for the designation of a single state agency to administer the plan; for the utilization by the state agency of the services of other public and nonprofit private organizations in the administration of the plan for assisting each health-care facility in the state in developing a program for capital expenditure in accordance with the overall plan to meet the needs of the state for adequate health facilities in the most efficient and economical manner and which provides for the funding of any amounts paid under Medicare or Medicaid for depreciation; that the state agency will periodically review the program of each health-care facility in the state with a view to determining whether the program continues to be consistent with the overall plan and if the program is no longer consistent with the plan, will assist the health-care facility in revising its program to make it consistent; that the state agency will make such reports as the Secretary may require; and for the participation of the state in carrying out its plan in such interstate or regional health-care facility programs as may be required under the Secretary's regulations. Beginning July 1st, 1968, the Secretary would have to pay to each state which has a plan approved under this title an amount equal to 75 per cent of the sums expended during a quarter as the Secretary finds are necessary for the efficient administration of the state plan.

The bill would also amend Titles XVIII and XIX of Medicare by providing that notwithstanding any other provision of the law, the term "reasonable cost" would include amounts attributable to depreciation of plant

and equipment of any provider of service only with respect to periods in which the Secretary is satisfied that the amounts will be utilized only in accordance with a program approved by a state agency established under Title XX as being consistent with the overall state plan for meeting the needs for health-care facilities in the state.

#### Public Relations:

The Council has been pleased that the House of Delegates made it possible to employ a public relations staff through enactment of a dues increase for 1967. Public relations activities have been coordinated by Lloyd A. Owens, M.D., a member of the Council.

As a result of additional help, the association's three-year-old weekly health education column, "A Message From Your Doctor," is now produced solely by OSMA staff. Previously, outside help was employed.

The column continues to be carried by about 40 state newspapers each week. If the newspaper space commanded by the column was purchased as advertising, the cost would be about \$25,000 annually.

New activities have been initiated as follows:

1. Taped health education radio programs are produced each week in the OSMA office and distributed to over 20 stations.

2. A photographic series on mechanical quackery has been distributed to major state newspapers.

3. Feature articles on health or related subjects are produced and mailed periodically to state newspapers.

4. A monthly newsletter, "The OSMA News," has been added to the association's internal communications program. The letter is issued on the first of the month, September through May. It is designed to provide concise organizational news coverage, and is timed in relationship to the OSMA Journal to effect a major news mailing to the OSMA membership every two weeks.

5. OSMA participated in the promotion of National Community Health Week, in cooperation with the AMA.



6. Special projects have been undertaken, such as press conferences, reaction stories to news events, and working with newspaper writers in conceiving, researching, and placing medical stories in major papers.

Projects which are underway, or in their planning stages, include:

1. The production of a 16 mm. sound film on OSMA organization and activities for showing to county medical societies.

2. The production of a 16 mm. sound educational film on professional liability.

3. Preliminary planning on a prospective statewide "Health Science Fair."

4. Development of two Speakers Bureau programs, one for lay audiences and another to provide a service to county medical societies.

#### Recommendations:

1. It is recommended that the Council on Public Policy, working under the direction of the Board of Trustees, continue to provide local support for the legislative program of the American Medical Association during the next organizational year, with special emphasis on amendments to the Medicare Act.

2. It is recommended that the Board of Trustees and Council on Public Policy study the feasibility of conducting a major "Health Science Fair" in January of 1969, and that plans, costs and financial mechanisms be presented to the House of Delegates for its judgment at the earliest opportunity.

### SECTION II STATE LEGISLATIVE COMMITTEE

The State Legislative Committee assumed primary jurisdiction for numerous activities this past year, as follows:

A. *Thirty-first Oklahoma Legislature:* The OSMA State Legislative Committee has indeed had an active year in attempting to represent the association before the First Session of the 31st Oklahoma Legislature.

The committee has met on eight separate occasions since last August for the purpose of evaluating and acting on proposed legislation which, in its opinion, has been of

Senate Bills	
House Bills	
House and Senate Resolutions	
Totals	

CHART A

For	Against	No Position	Under Study	Total
20	2	7	3	32
15	4	10	4	33
3		6	3	12
38	6	23	10	77

Senate Bills	
House Bills	
Totals	

CHART B

Introduced	Passed	Killed	Pending
9	6		3
2	1	1	
11	7	1	3

significant concern to the practice of medicine or to its allied affiliates. As of April 10th, the OSMA had presented testimony on 43 occasions, lending our support or objections to particular House and Senate bills.

During this session, your committee has reviewed 77 pieces of legislation. The OSMA Journal and the OSMA News have consistently carried a status report on all priority bills since the session opened January 3rd. The committee has further advised the profession on specific matters through direct mail and appearances before county societies or interested groups of physicians throughout the state.

Since it is impractical to take up your time by listing the content, detailed ramifications and status of 77 separate bills, the above charts provide a statistical tabulation of bills considered to date by this committee. Section F of this report contains a brief summary of several of the major pieces of legislation your committee was confronted with this session.

Specifically, Chart A reflects the positions taken on all Senate and House bills and on combined resolutions. Chart B reflects the number of Senate and House bills which were initiated by the OSMA and the current status on each.

In spite of the committee's efforts in greatly broadening its activities and functions this year, it is more apparent than ever that much work still remains to be done if we are to effectively gain the legislative recognition we are competent of assuming. Steps to further accomplish appropriate legislative effectiveness will be covered in other sections of this report.

It is important to mention that the workload experienced with the Oklahoma Legislature, as we have known it in the past, will now be doubled. This doubling is brought about by Oklahoma voters deciding last May to approve the Constitutional amendment which now requires that Oklahoma lawmakers meet annually.

B. *Interim Legislative Council:* Much work was done by this committee in its activity with last year's interim Legislative Council, the body which studies numerous subjects between sessions and makes subsequent recommendations to enact or not enact particular legislation.

The chiropractors, alone, had ten study proposals before the last Council. The studies included the establishment of a chiropractic college in Oklahoma, placing a chiropractor on the State Board of Health, permitting their participation in all public assistance programs and a list of others. As a result of work and contact expended by this committee and others, the Legislative Council approved only one of their ten proposals, that being to permit the Chiropractic Board of Examiners to increase their annual licensure renewal fee from \$5 to \$20.

In all, your State Legislative Committee worked on 31 separate proposals. These studies covered areas of interest in nursing, a number of public health and public welfare programs, medical school needs, chiropractic, physicians, Workmen's Compensation and so on.

C. *Rapport With Legislators:* Much emphasis has been exerted this year by your State Legislative Committee to strengthen rapport between Oklahoma medicine and legislators.

The following steps were taken this year, which have yielded productive inroads to medicine in its endeavor to broaden our legislative influence:

(1) *Third National Congress on Medical Quackery:*

This Congress was held in Chicago on October 7th-8th, 1966. Sponsored by the AMA and the National Health Council, your State Legislative Committee was successful in managing to encourage the Oklahoma Senate and House of Representatives to send two members each (at their expense) to this highly educational review on quackery. The Senators attending were John L. Garrett, Del City, and Ernest D. Martin, Ardmore. The House sent Representatives Barbour Cox, Chandler, and C. H. Spearman, Jr., of Edmond.

Representatives from the OSMA joining the lawmakers on this trip were Raymond F. Hain, M.D., Oklahoma City, Chairman of the State Legislative Committee; Orange M. Welborn, M.D., Ada, Chairman of the Council on Professional and Intervocational Relations; and Messrs. Don Blair and Dwight Whelan of the OSMA staff.

The net result of this enlightening experience has been that all four of the legislators have been most cooperative in assisting medicine this year in the Legislature. This is due primarily to their having been exposed to many real problems relating to medical practice; problems which they were virtually unaware of before their attendance at the Quackery Congress.

(2) *Physician Contacts With Their Legislators:*

Progress has been made this past year by placing more emphasis on the use of each legislator's family physician in terms of the physician directly contacting his elected Senator and Representative on major legislation, and by providing his lawmakers with detailed knowledge of medicine's position.

While progress was made in this area this year, more widespread cooperation is needed from the contact in order to properly canvass all

members of the Legislature and thus, have medicine's views clearly understood.

(3) *Legislative First Aid Station and "Doctor of the Day" Program:*

As you know, the Oklahoma Academy of General Practice conceived the idea and subsequently established the Legislative First Aid Station and the "Doctor of the Day" program during the last session of the Legislature in 1965. The OSMA cooperated with the Academy in this worthwhile public relations building activity.

During this session, the project is again jointly sponsored by the OSMA and the Academy of General Practice. In order to give greater emphasis both groups this year strived and have been successful in enlisting greater statewide participation by physicians who volunteer to staff the first aid station each and every day the lawmakers are in session. In fact, to date, almost every senatorial district in the state has been represented, at least once, by a physician from each district.

Other methods were devised and initiated to permit the legislators and their physicians to spend more time together, during the physician's day of service at the Capitol. This was primarily accomplished by the Oklahoma State Nurses Association's furnishing a daily nurse, who assists the physician in staffing the first aid station.

This project has added and will continue to add to medicine's effectiveness, since it brings physicians and their legislators closer together, thus building better rapport by producing greater respect and understanding between the lawmaker and his physician.

(4) *Miscellaneous:*

In addition to the aforementioned steps taken by the committee to build and strengthen legislative rapport, results in this area have been further realized by: (a) this committee's hosting the members of the Senate Subcommittee on Public Health to dinner; (b) the committee's encouragement to and subsequent response from the Oklahoma and Tulsa County Medical Societies in hosting their 28 and 22 respective

county legislative delegations to dinners, sponsored separately by the two societies; and (c) the numerous informal luncheons and dinners this session between our two registered lobbyists, Messrs. Don Blair and Dwight Whelan, and select members of the Senate and House.

D. *First Annual OSMA Forum on Medicine and Government:*

In May of 1965, your State Legislative Committee asked for and received permission from the House of Delegates to conduct a Forum on Medicine and Government.

The First Annual OSMA Forum on Medicine and Government was successfully conducted on December 11th, 1966, at Oklahoma City's Skirvin Hotel. Over 200 physicians and wives attended this event.

The forum had two primary objectives—to improve the legislative action program of the association and to educate OSMA members and their wives about legislative processes and the functions of major divisions of Oklahoma's government.

While the committee would like to have seen greater physician attendance, the event was still ruled a smashing success. The January 2nd, 1967, issue of the AMA News carried a special front page feature story of this event.

Those featured on this program from state government were: Governor Henry Bellmon; State Budget Director, Carl Williams; Secretary of State, James Bullard; Attorney General, Charles Nesbitt; Vice-Chief Justice of the Oklahoma Supreme Court, Pat Irwin; President Pro Tempore of the State Senate, Clem McSpadden; and filling in for Speaker of the House was Representative C. H. Spearman, Jr.

Your State Legislative Committee feels strongly about the need for more physicians to expose themselves to and become more familiar with the legislative process, and the detailed functions of the various branches and agencies of state government. It is felt that through this physician exposure and subsequent understanding, that physicians and their wives will be enhanced with



far greater interest and thus, active participation.

#### *E. Liaison With Other Groups in Formulation of Sound Legislation:*

Since conclusion of the last session of the Legislature through today, your State Legislative Committee has worked industriously with many organizations and groups in an effort to work toward the drafting of mutually acceptable legislation. This has proven to be of real benefit to the association since it greatly reduces our having to spend much unnecessary time before the Legislature in protesting or attempting to change or modify bills of common interest.

This year, your committee has worked with numerous groups in drafting acceptable bills. They were: Oklahoma Nurses Association; Oklahoma Hospital Association; Oklahoma Blue Cross-Blue Shield; State Health Department; State Department of Public Safety; OU Medical Center; Board of Unexplained Deaths; Dispensing Opticians; and Laboratory Technologists.

Much interest and national attention is being focused on the need to license medical laboratories and laboratory personnel. Attempts were being made in November, 1966, by two laboratory technology groups to introduce into the 31st Legislature, a bill to license laboratory personnel. Your State Legislative Committee was successful in having introduction of this proposal postponed.

Moreover, we were successful in initiating the formation of the Inter-organizational Committee for Improved Laboratory Performance. This committee was officially formed on December 18th, 1966, at the OSMA executive office. Membership on this committee is comprised of two representatives each from the following organizations: Oklahoma State Medical Association; Oklahoma Association of Pathologists; Oklahoma State Health Department; Oklahoma Hospital Association; Oklahoma Osteopathic Association; Oklahoma Society of Medical Technologists; American Association of Medical Technologists; International Society of Clinical Laboratory Tech-

nologists and American Association of Bioanalysts

The purpose of this committee is to work toward the development of acceptable legislation for licensing medical laboratories and laboratory personnel in order to insure quality laboratory work. It is hoped that an acceptable draft will be ready for introduction prior to the convening of the next Legislature. Further, the group is committed to develop an educational outlet to further insure the quality of laboratory testing.

This interorganizational committee has already met a total of seven times since December, representing approximately 200 man-hours spent in working on the many details involved and necessary in order to finally draft a sound bill. All meetings have been held at the OSMA office.

#### *F. Summary of Major Legislation:*

Your State Legislative Committee wishes to present this brief summary of major bills which confronted the association this session. At the time of writing this report, most of these proposals were still pending before the House or Senate. The bills are listed as follows as they apply to specific categories:

##### *Dispensing Opticians*

Many hours of research and hard work went into the drafting and promoting of House Bill No. 685, the bill supported by the OSMA to register dispensing opticians. The purpose of this legislation was to provide that dispensing opticians must meet minimal standards of training and education in order to be registered under the proposed bill. Regulatory supervision would have rested with the State Board of Medical Examiners.

House Bill 685 had the support of the OSMA, Oklahoma Osteopathic Association and Oklahoma dispensing opticians. It was opposed by the Oklahoma Optometric Association. The bill was defeated on the floor of the House by a vote of 38 to 37, when it was turned out of the Jurisprudence Committee in the form of a minority report.

Your committee is hopeful that the bill might be reintroduced during the

next session, since it is vital that this ancillary group be permitted to serve the eye physician as they have so adequately done for 75 years.

##### *Chiropractic*

There has been much activity this session with bills pertaining to chiropractic. On January 18th, Senate Bill No. 116 was introduced and, had it passed, it would have prohibited chiropractors from advertising their individual services through common news media. This bill had the support of all groups in the healing arts field except the Chiropractic Association. On February 9th, the bill was unanimously passed out of Senate committee on a "Do Pass Motion." On February 14th, as a result of a massive all-out effort on the part of the Oklahoma Press Association opposing the bill, SB 116 was recommitted by the Senate to its Business and Industry Committee. The bill will lie in committee through the session but will remain alive through next year's session.

In the House of Representatives, two bills were introduced on March 6th, as initiated by the Chiropractic Association. House Bill No. 851 provides that a chiropractor be placed on the State Board of Health. The other proposal, House Bill No. 852, would permit chiropractors to actively engage in all public assistance programs dealing with health care. Your State Legislative Committee has opposed both of these proposals as not being in the best interest of good public health. Both bills are locked up in House committee.

##### *Medical Practice Act*

Senate Bill No. 66 was introduced on January 10th by Senator Roy Grantham of Ponca City. This bill amends the medical practice act by providing that a physician will not be prosecuted under the criminal statutes of this state for treating a minor under emergency conditions, even though he may not have obtained consent of the minor's parent or guardian.

This bill was supported by the OSMA and enacted on April 18th.

Senate Bill No. 276, introduced on February 27th by Senator Robert



Gee, Miami, and Representative Jerry Sokolosky, Oklahoma City, amends the medical practice act by giving the State Board of Medical Examiners discretionary authority to issue temporary licenses to residents for the period of resident training. Moreover, this bill further allows the Board to issue a certificate of limited medical practice to certain well known physicians who might be serving a one-year professorship at the OU Medical Center.

The bill had OSMA support and was enacted in mid-April.

#### *Board of Unexplained Deaths*

Senate Bill No. 126, introduced by Senators Don Baldwin, Anadarko, and George Miller, Ada, calls for an appropriation to the State Medical Examiner's program of \$75,000 for the next year. Your State Legislative Committee was successful in getting this figure amended and increased to \$100,000, since such amount is necessary in order to employ a forensic pathologist and maintain an appropriate county medical examiner system.

The bill went to the Conference Appropriations Committee where it was passed out and in mid-April signed into law at the \$100,000 figure.

#### *Hospitals*

In May of 1966, the OSMA House of Delegates approved the following directive: "In the event the Oklahoma State Board of Pharmacy does not withdraw or satisfactorily amend its regulations governing hospital pharmacies and drug rooms, it is recommended that the OSMA State Legislative Committee undertake specific legislation to clearly place hospital pharmacy operation under the authority of the State Board of Health."

The Board of Pharmacy did not withdraw or amend its previously enacted regulations as referred to above. So, on March 6th, 1967, your State Legislative Committee, working with the Oklahoma Hospital Association caused to be introduced into the Legislature. Senate Bill No. 346.

Senate Bill No. 346 amends the

Public Health Code and provides that the State Board of Health, as the state agency presently authorized to license hospitals in this state, be given further authority to develop rules and regulations controlling the standards and operations of hospital drug rooms.

On March 15th, the bill was brought up before the Senate's Health, Welfare and Veterans' Affairs Committee, at which time it was referred to the Subcommittee on Public Health—at the request of the subcommittee's chairman, Senator Ernest Martin of Ardmore. Senator Martin wanted to see the bill changed so that it would be acceptable not only to medicine and hospitals but to the Board of Pharmacy as well.

On March 17th, representatives of the OSMA, Board of Pharmacy, Board of Health, and the Hospital Association met in the Senate chamber and worked out a compromise amendment which was unanimously acceptable to all of the representatives concerned, including Senator Martin.

The compromise amendment reads as follows: "The State Board of Health, upon the recommendation of the State Commissioner of Health and with the advice of the State Hospital Advisory Council and with the advice of the State Board of Pharmacy, shall adopt such rules, regulations and standards as it deems to be in the public interest with respect to the storage and dispensing of drugs and medications for hospital patients; the State Board of Pharmacy shall be empowered to inspect drug facilities in licensed hospitals and shall report violations of applicable statutes and regulations to the State Board of Health for action and reply."

On March 23rd, this amendment was adopted and the bill was passed out of the Senate's Health, Welfare and Veterans' Affairs Committee on a "Do Pass" motion. On April 13th, the bill was killed. The same day, it was reconsidered and sent back to Senate Committee, where it will be revived next January.

#### *Workmen's Compensation*

Under the present Workmen's Com-

pensation Code, there is no specific responsibility for the Industrial Court or the insurance carrier to take appropriate jurisdiction in seeing that a physician or hospital is paid when the patient becomes deceased.

Senate Bill No. 416 was introduced by Senator John Garrett, Del City, and Representative Joseph Mountford, Miami—at the request of your State Legislative Committee—on March 13th. This bill amends the present law and, if passed, would provide that physicians and hospitals would be paid when a patient becomes deceased, under the same conditions as though the patient lives.

On March 28th, SB 416 passed the Senate and will remain in the House Insurance Committee for their action next January—due to opposition by Associated Industries of Oklahoma.

#### *Nurses*

During this Legislature, the OSMA State Legislative Committee worked in close cooperation with the Oklahoma State Nurses Association in preparation and subsequent introduction of two bills.

First, Senate Bill No. 149 makes the following changes in the present nursing laws: (1) staggers the terms of practical nurses serving on the Board of Nurse Registration; (2) reduces the minimum length of programs for professional nursing conducted by a hospital school of nursing and reduces the time requirement for receiving a diploma from three years to 27 months; and (3) adjusts the per diem for members of the Board in attendance at official meetings of the Board of Nurse Registration.

This bill passed the Senate and House and was signed into law on April 10th. The OSMA favored this measure and assisted in having it introduced.

The second bill, Senate Bill No. 275, clarified and more exactly defines what constitutes practicing as a registered nurse and licensed practical nurse. Your committee was successful in amending the bill by specifying that the broader definitions could not be construed to affect or apply to the rendering of service

by a physician's trained assistant, when under the direct supervision and control of a licensed physician.

Senate Bill No. 275 was signed into law on March 28th and had the support of the OSMA, as amended.

#### *Public Safety*

In the Fall of 1966, the OSMA Council on Public Health appointed a Committee on Safety to work with the State Department of Public Safety in drafting a bill which would create a Driver's License Medical Advisory Committee.

The purpose for such a committee would be to recommend standards for determining the physical, emotional and mental capacity of applicants for drivers' licenses and holders of drivers' licenses, and in questionable cases of ailment or disability, the committee would consider each case in light of said standards and the individual's own compensating abilities in making its recommendations to the Department of Public Safety.

On March 1st, House Bill No. 807 was introduced and provides for creation of this advisory committee. The bill has passed the House and is in the Senate's Roads, Highways and Public Safety Committee. Members of the Driver's License Medical Advisory Committee would include an internist, vision specialist, orthopedic surgeon, neurologist and psychiatrist. Members of the committee shall not be held liable for their requested standards, opinions and recommendations presented for consideration to the Department of Public Safety.

House Bill No. 807 had the support of your State Legislative Committee. It passed and was signed into law in late April.

#### *Public Health*

Under the heading of public health, many pieces of legislation were introduced during the session.

Paramount among these items, in terms of the many hours spent in researching and lending testimony on numerous occasions, was House Bill No. 710, the bill legalizing abortions under certain conditions.

House Bill 710 was introduced on February 13th by Representative

Curtis Lawson of Tulsa. On February 17th, your State Legislative Committee met, thoroughly reviewed and took "No position" on this bill. The committee felt that the nature of this bill involves the broad spectrum of moral interpretation by both physicians and the general public.

Your committee did feel a solemn responsibility to do everything possible to add appropriate language and provisions to the bill, in order to safeguard physicians and the public from unnecessary abuse—should the bill be enacted.

With the latter comment in mind, your committee was represented at both public hearings when the bill was in the House Jurisprudence Committee. Appropriate testimony and recommended changes were presented at both hearings. On March 30th, the House passed the amended bill by a vote of 50 to 41.

On April 5th, your State Legislative Committee again met for the sole purpose of preparing more extensive amendments which would impose stricter safeguards and greatly lessen abuse. The proposed amendments were transmitted on April 6th to the author of the bill and to the chairman of the Senate Judiciary Committee, where the bill was assigned at the time of writing this report.

#### *Autopsy Consent*

At the request of the State Legislative Committee, Senator Richard Stansberry, M.D., Oklahoma City, introduced Senate Bill No. 337.

The bill changes the autopsy consent law by providing that a post mortem examination may be performed whenever consent is given to a licensed physician to conduct a post mortem examination on the body of a deceased person by which ever one of the following assumes custody of the body for purposes of burial: Father, mother, husband, wife, child, guardian, next of kin, or in the absence of any of the foregoing, a friend or a person charged by law with the responsibility for burial. If two or more such persons assume custody of the body, the consent of one of them shall be deemed sufficient.

Your committee assisted in drafting this bill since it feels that enactment of this law will greatly simplify the procedure required for performing an autopsy—which is so important to establishment of high quality care; properly carrying out the provisions of the State Medical Examiners program; and the teaching of physicians and medical students as to causes of deaths and to assist in prevention of deaths.

Senate Bill No. 337 was passed by the Senate on March 14th, the House on April 13th and signed by the Governor on April 19th.

#### *Recommendations:*

The OSMA State Legislative Committee recommends to the Board of Trustees and to the House of Delegates:

1. That the OSMA State Legislative Committee be granted authority to develop and present policy statements to future sessions of the Legislature without the calling of special meetings of the Board of Trustees or House of Delegates when developing such position statements are deemed necessary by the committee, and provided that such statements are in keeping with general or specific policies of the Board or House; provided, further, that any policy or positions so defined is subject to later review and modification by the Board of Trustees or the House of Delegates.

The reason being that unlike other committees of this association, the State Legislative Committee must immediately review and establish a position on a newly introduced bill in order to have testimony ready for legislative committee hearings, which can and often do come within several days following actual introduction of the bill. The House approved this last May, but for the current session of the Legislature.

2. During future legislative sessions that OSMA continue to cooperate and co-sponsor the Legislative First Aid Station and the "Doctor of the Day" program with the Oklahoma Academy of General Practice, and that pharmaceutical manufacturers be requested to aid us in supplying of necessary pharmaceu-



tical products. It is emphasized that the professional care rendered by physicians implementing this program is an extension of the same care rendered by the recipient's family physicians.

3. That the House of Delegates approve the planning and conducting of the Second Annual OSMA Forum on Medicine and Government, preferably to be held in conjunction with the 1968 OSMA Annual Meeting in Oklahoma City.

4. That the House of Delegates lend its support and approval to intensifying our efforts in building even greater rapport between medicine and individual legislators by:

(a) encouraging local physicians to demonstrate more interest in their legislators and to participate actively in the association's legislative affairs.

(b) encouraging all county medical societies and local physician groups to periodically host their legislators at dinners or luncheons and to discuss matters of mutual concern.

(c) encouraging all state physicians to join and take an active part in OMPAC.

5. That the State Legislative Committee again be granted a budget (taken from the allocated budget of the Council on Public Policy) of \$3,000 to be used by this committee in carrying out its aforementioned tasks and other related functions.

6. That this committee continue to work more closely with other organizations, including dentists, veterinarians, and the pharmaceutical association in the development and preparation of acceptable legislation.

7. That a resolution be written and submitted to the AMA House of Delegates which would urge the American Medical Association to initiate more national programs attuned to providing exposure and understanding, where state legislators are concerned, into the complexities and problems relating to medicine and public health.

8. Nothing in this report is to be construed as suggesting a restraint

of free discourse and the personal expression of opinion between a physician and his elected legislator.

### SECTION III MEDICAL HERITAGE COMMITTEE

The Medical Heritage Committee has the assignments of: (1) collecting, preserving and displaying documents and artifacts involving the heritage of medicine in Oklahoma; and (2) re-designing the official seal of the Oklahoma State Medical Association.

It has been reported previously that a wealth of historical material has been collected over the years and is now on deposit at the Library of the University of Oklahoma's main campus.

This material will be inventoried, and by action of the Board of Trustees, some of this material may be stored and displayed in future years at the proposed new library of the University of Oklahoma Medical Center where R. Palmer Howard, M.D., has been named Professor of the History of Medicine.

Negotiations are also underway with the National Cowboy Hall of Fame, Oklahoma City, to provide storage space, and there is the prospect of having a permanent display in this unique institution.

The committee is preparing a list of the types and quantities of material it needs to develop a comprehensive and meaningful collection. Ways and means to solicit and acquire this material are being considered at the present.

In the meantime, the OSMA staff will routinely contact the survivors of deceased physicians for an inventory of items of possible historical significance, and a legal release form is in preparation to permit public disclosure.

The attorney for the association has advised the committee that, as a function of the OSMA, it can receive tax-deductible donations for furthering its objectives without jeopardizing the corporate status of the association.

Two proposed designs for a new OSMA seal are attached and offered

to the judgment of the House of Delegates.

The difference between the designs involves simplicity versus a more ornate border.

Both seals depict the founding dates of the Oklahoma and Indian Territory medical societies, as well as their amalgamation into the Oklahoma State Medical Association in 1906. The Staff of Aesculapius approximately divides the two territories.

#### *Recommendation:*

1. It is recommended that the House of Delegates select and adopt design (B) as the official seal of the Oklahoma State Medical Association. Further, it is recommended that the Medical Heritage Committee assign color values to the various elements of the seal. Although the official seal is comprised of gray and black elements only, the assignment of unified color values will promote a wider application of the seal in a uniform pattern.

#### Report of the COUNCIL ON SOCIO-ECONOMIC ACTIVITIES (APPROVED AS AMENDED) *Council Members*

B. C. Chatham, M.D., Chickasha,  
Chairman

H. E. Denyer, M.D., Bartlesville

E. K. Norfleet, M.D., Norman

Clarence P. Taylor, Jr., M.D., Ada

Scott Hendren, M.D., Oklahoma City

Don O'Donoghue, M.D., Oklahoma  
City

Ann K. Kent, M.D., Muskogee

Roger Reid, M.D., Ardmore

Walter E. Brown, M.D., Tulsa

E. Cotter Murray, M.D., Oklahoma  
City

Thurman Shuller, M.D., McAlester  
*Task Force Representatives*

B. C. Chatham, M.D., Chickasha,  
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Hayden H. Donahue, M.D., Norman

Thomas C. Points, M.D., Oklahoma  
City

#### *Governmental Relations*

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Francis A. Davis, M.D., Shawnee

Walter E. Brown, M.D., Tulsa

Robert L. Loftin, M.D., Broken Bow

Maxwell A. Johnson, M.D., Tulsa  
Rex E. Kenyon, M.D., Oklahoma City  
*Occupational Medicine*

John A. Blaschke, M.D., Oklahoma  
City, Chairman

Bob J. Rutledge, M.D., Oklahoma  
City

Robert L. Lembke, M.D., Ponca City

James P. Bell, M.D., Oklahoma City

Worth M. Gross, M.D., Tulsa

Casper H. Smith, M.D., Duncan

#### *Prepaid Medical Care*

Charles Bodine, M.D., Oklahoma  
City, Chairman

George S. Bozalis, M.D., Oklahoma  
City

Robert E. Dillman, M.D., Tulsa

### **SECTION I**

## **HEALTH ECONOMIC TASK FORCE**

### *Background*

In May, 1965, the House of Delegates initiated a major Health Economic Survey in Oklahoma. Shortly thereafter, the effort was joined by the Oklahoma Hospital Association and the Oklahoma Blue Cross-Blue Shield Plans, forming a triad of sponsoring organizations.

As a quasi-governmental activity, and in keeping with the OSMA plan, Governor Bellmon appointed a Task Force to manage the project. This Task Force is composed of:

B. C. Chatham, M.D., OSMA,  
(Chairman)

Hayden H. Donahue, M.D., OSMA

Thomas C. Points, M.D., OSMA

James D. Harvey, Oklahoma Hos-  
pital Association

Richard Luttrell, Oklahoma Hos-  
pital Association

Ralph R. Bethel, Oklahoma Blue  
Cross-Blue Shield

Eugene L. Swearingen, Ph.D.,  
Oklahoma Blue Cross-Blue Shield

Eugene F. Ross, D.O., Oklahoma  
Osteopathic Association

Dale Stone, DX Sunray Oil Com-  
pany

David Hutchinson, United Auto  
Workers

Lewis Munn, Oklahoma Farm Bu-  
reau

Research assistance was obtained from Oklahoma State University. Ansel Sharp, Ph.D., an OSU economist, was assigned as principal investigator.

Financing for the survey, exclusive

of personal contributions amounting to hundreds of man-hours, was developed as follows:

Oklahoma State Medical Association	\$ 7,896.00
Oklahoma Hospital Association	6,000.00
Oklahoma Blue Cross-Blue Shield	7,948.00
American Medical Association	2,000.00
Oklahoma State University	4,526.00

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Total Expenditures \$28,370.00

The survey was inspired by the House of Delegates when it realized that the financial aspects of health care lie at the root of the major problems now confronting the medical profession, i.e., legislation and public relations.

The House took note of certain alarming facts:

1. In 1964, government spending for health care services reached \$9 billion, or 25.5 per cent of total health expenditures.

2. Almost one-sixth of the population was eligible for treatment in Federal hospitals or clinics.

3. The county, state and national governments assisted some 17 million additional persons in health care financing.

4. The prospective passage of the Medicare Bill, which later became a reality, would add 18 million more persons to the Federal rolls, and would extend Federal-State care to even larger numbers of "medically-indigent" persons.

5. These inroads were due, in some part, to frailties in the voluntary prepayment system, either in the scope of enrollment in private programs or in the quality of the protection offered.

It was concluded by the House of Delegates that "unless voluntary health insurance and prepayment plans are perfected to the highest possible degree, medical economic gaps will occur to a limited degree, and the Federal government will rush in to an excessive degree."

With a mission, therefore, of "getting our house in order," the research study began by recognizing the Oklahoma's health economic

system was due intensive study, analysis and corrective action; the sectors of responsibility for voluntary prepayment plans and government health care programs needed to be defined; new prepayment programs, or innovations, needed to be found in order to protect the private sector from unwarranted invasion by government; a responsibility was owed to the public by the health care industry to bring prepayment programs abreast of today's complex social, medical and economic needs; the public needed more guidance from local authorities concerning medical economics; and, in order to speak authoritatively and to plan with accuracy, more needed to be learned about the financial capability of Oklahoma people to remain self-reliant in matters of health care financing.

General goals for the Task Force were defined as follows:

1. To limit government's role in health care financing by improving the quality and saleability of voluntary prepayment programs.

2. To combine the promotion of excellent prepayment programs with an intensive health economic education effort, and to thereby demonstrate that free enterprise can perform more efficiently than government in solving the health economic problems of the majority of the population.

3. To recapture the initiative for health care planning.

### *Role of Blue Cross-Blue Shield*

The House of Delegates recognized that Blue Cross and Blue Shield were founded by physicians and hospitals and "have maintained effective and beneficial liaison with the providers of health services throughout the years." Moreover, the House took note that the Blues' retention factor of about ten per cent has not been generally matched by commercial insurance companies, "nor have these commercial companies responded to the needs of the entire population in the manner of Blue Cross-Blue Shield."

Therefore, the House of Delegates observed: "The medical profession should recognize the Blue Cross-Blue



Shield record of public and professional service, and should name this proven prepayment mechanism as the preferred fiscal agent for managing the economic aspects of providing comprehensive health services to the population on a mass enrollment basis."

Specific research goals were delineated for the Task Force in the original assignment handed down by the House of Delegates, as follows:

1. Survey the extent of prepaid protection for the entire Oklahoma population, based upon income brackets and by geographical areas.
2. Survey the quality of prepayment protection for the entire population, based upon income brackets and by geographical areas.
3. Conduct a public opinion survey regarding attitudes toward the costs and benefits of prepayment coverage.
4. Conduct a professional opinion survey regarding the product design of prepayment plans.

#### Research Phases

The survey, which took one year to complete (August, 1965 - August, 1966), was organized into three phases, as summarized below:

#### Phase I:

The purpose of the initial phase was to locate available data in the field of health and medical care economics. Doctor Sharp, the principal investigator, travelled to Chicago and held interviews and obtained data from the following individuals: Odin W. Anderson, Ph.D., Health Information Foundation, University of Chicago; Grant Osborn, Ph.D., Chief Economist, American Medical Association; Don Reidel, Ph.D., Research Director, Blue Cross Association; and William J. Sabaski, Research Economist, National Association of Blue Shield Plans.

Background information of considerable value to the Oklahoma study was gained on this trip.

#### Phase II:

Information gathered in Phase I was analyzed by the investigator, coordinated with other available data

and characteristics applicable to Oklahoma, and presented in a 34-page progress report to the Task Force. This report demonstrated general trends in private and public expenditures in the United States, revealed national information on the extent and adequacy of private health insurance, produced data on hospital admission rates and average days' stay, and enabled estimates to be made on personal health expenses in Oklahoma based upon interpretation of national data.

#### Phase III:

The final phase involved a survey of 1,500 case histories of persons hospitalized throughout the state in 1965. Cases surveyed were selected by a random sample which was stratified within the 14 homogenous economic areas of Oklahoma.

Three questionnaires were mailed. First, cooperating hospitals provided data on costs of hospital care and method of payment. Secondly, the attending physicians were polled regarding their charges and the method of payment. Finally, the patients themselves provided information as to their annual health care costs, family income, family size, attitudes toward health insurance, et cetera.

Data thus gathered was combined with information gleaned from the first and second phases of the project to produce the final 97-page report.

#### Findings

Here are the highlights of the survey findings:

#### General Information:

—It is estimated that \$244 million was spent in 1965 by Oklahomans for personal health services, or 4.8 per cent of the state's total personal income.

—The average person spent about \$105 a year for personal health services.

—Hospital services accounted for \$56.9 million in 1965, or 23.4 per cent of the total.

—Physicians received \$81.3 million, or 33.3 per cent.

—Dentists received \$35.9 million, or 14.7 per cent.

—Drug costs amounted to \$49.3 million, or 20.1 per cent.

—Other health services cost \$20.6 million, or 8.5 per cent.

—Nationally, consumers paid \$8 billion in premiums to health insurance organizations in 1963, with Blue Cross and Blue Shield receiving 42.5 per cent of the income, commercial insurance companies receiving 52.5 per cent, and other prepayment organizations receiving 5.0 per cent.

—Seven billion dollars was returned to the people in the form of benefits, while \$1 billion was retained by the carriers.

—Although Blue Cross-Blue Shield received close to one-half the premium income, only 20.5 per cent of the retention accrued to these organizations while commercial insurance companies acquired 75.0 per cent of the total retention.

#### Hospitalization Survey (Oklahoma):

—Average stay for all patients was 6.3 days, a figure below the national average (7.6) but approximately the same as prevails in this region (6.2).

—Average stay for a surgical case was 6.9 days, for a medical case 7.1 days, for maternity care 3.7 days, and other types of cases averaged 5.8 days.

—Length of stay increases with the age of patient ranging from 3.1 days for under age 15 to 9.4 days for over age 65.

—Despite national figures to the contrary, the Oklahoma survey did not indicate that the possession of health insurance affected the length of stay in the hospital (6.2 days for the uninsured and 6.3 days for the insured).

—Blue Cross patients tend to stay in the hospital longer than those with commercial insurance (6.8 days compared to 6.4 days).

—Patients with group policies have shorter stays than those with individual policies.

—The survey revealed no conclusive evidence of over-utilization by the insured patients.

—The average cost of a period of hospitalization is \$252.44, of which 55.7 per cent is for ancillary services.

—The average cost generally increases with the age of the patient, just as the length of stay generally increases.

—The average charge per patient day of \$39.87 varies inversely to the length of stay, i.e., the longer the stay, the lower the per diem.

—Insured patients have hospital bills 12.8 per cent higher than those uninsured, but no significant inferences can be made from the data obtained.

—Based upon the state survey, 57.1 per cent of Oklahoma's population has hospital insurance (Social Security estimates are higher—62 to 70 per cent).

—Twenty-one and nine-tenths per cent of Oklahomans have Blue Cross, while 34.0 per cent have commercial health insurance of some type.

—Oklahoma's level of hospital insurance is below the national average, but compares favorably to the region.

—Eighty-six per cent of the insured patient's hospital bill is paid by Blue Cross while 82.1 per cent of the insured's bill is paid when commercial health insurance is involved. This is based on group coverage, where commercial companies compare more favorably.

—There is a marked difference between the quality of *individual Blue Cross* policies as compared to *individual insurance* policies (Blue Cross pays 82 per cent of the average bill, while commercial insurance companies, in the aggregate, pay only 56 per cent).

—Commercial insurance companies retain more premium than does Blue Cross and the Oklahoma Blue Cross Plan retains less than Blue Cross nationally.

#### *Patient Survey:*

—Families with higher income have higher hospital admission rates but shorter lengths of stay.

—Except in the under \$2,000 income bracket, insured patients stay in the hospital longer than the uninsured in all other family income groups.

—Hospital charges to insured patients are higher at every income class than for uninsured patients (12.8 per cent on the average).

—The family income classes of the patients surveyed generally depict the income classes of the Oklahoma

population, i.e., almost 39 per cent of the families surveyed had annual incomes of less than \$4,000.

—Insurance coverage is directly related to income classes, i.e., only 38.1 per cent of patients with incomes under \$2,000 have insurance, while 86.8 per cent of those in the \$7,000-9,999 bracket have coverage.

—Generally speaking, larger families are more inclined to purchase health insurance, but the greatest determinant is family income.

—There are tremendous variations from district to district throughout the state in terms of average income and the amount and quality of health insurance protection held by the populace.

—The quality of the health insurance held varies directly with the income of the purchaser.

#### *Physicians Survey:*

—The average physician - charge for an illness serious enough to require hospitalization is \$120.54, of which \$104.96 is incurred during the actual period of hospitalization.

—The average medical cost, combined with the average hospital cost, amounts to a total of \$372.98 per illness.

—Physicians' charges to insured patients are higher than to the uninsured (\$148.42 for the average insured patient, as compared to \$89.87 for the uninsured). Price discrimination may seem apparent, but fewer low income patients have insurance, and the survey reveals elsewhere that physician fees are shown to be reduced as family income decreases.

—Sixty-eight and eight-tenths per cent of physicians' charges are paid by insurance during the period of hospitalization, while 59.2 per cent are covered by insurance during the complete spell of illness requiring hospitalization.

—The survey revealed that 56.6 per cent of Oklahomans are insured against the cost of physicians services, while 43.4 per cent are not. However, the application of national data to Oklahoma indicates that the insured figure may actually be higher (59 to 66 per cent).

—Many physicians services are not covered by health insurance, particularly outpatient care.

—Age does not seem to be a factor in the percentage of persons having physician insurance, except a much smaller percentage of the over-65 group is insured.

—Family income is directly related to medical insurance coverage.

#### *Public Opinion of Health Insurance:*

Patient respondents, in addition to providing income and family size information, answered certain questions concerning health insurance, as follows:

- |  |           |
|--|-----------|
| —Is cost reasonable for benefits offered?        | Yes 72.2% |
| —Should more services be covered?                | Yes 62.8% |
| —Should all costs be covered?                    | Yes 52.0% |
| —Would an increase in premium be acceptable?     | No 57.1%  |
| —Should insurance pay more for services covered? | Yes 64.9% |

#### *Public Expenditures:*

The public expenditure portion of the survey report is not summarized in detail because the most significant figures—those related to public welfare expenditures for patient care—have been rendered invalid by the implementation of the Medicare law and the resultant escalation of the welfare program in Oklahoma.

For example, the survey revealed \$25,400,000 annual expenditures by the Department of Public Welfare for care of indigents, but passage of the Medicare law has now expanded this program to about \$60,000,000 annually.

#### *Additional Information:*

The foregoing highlights of the survey findings are but examples of a wealth of health economic data developed by the survey.

Detailed breakdowns are provided in 40 tables, and selected economic social and health expenditure figures are arrayed for each of the state's 14 economic areas.

#### *Conclusions*

1. Since the time the survey began, the expansive implementation of Title XVIII and XIX of the Medi-



care Law have greatly reduced medical indigency in Oklahoma. Therefore the middle and lower middle income classes of Oklahoma's population may be isolated is primary targets for the concern of the health care industry in boosting the quantity and quality of voluntary prepayment protection against the costs of illness. It is even more important today to satisfy the needs of the middle income groups because they have inherited the additional responsibility as taxpayers of supporting the new government health care programs.

2. The status quo of prepayment protection in Oklahoma, although comparable to other states in this region, is not strong enough to support the contention that private enterprise and individual responsibility are adequately meeting the needs of the people. For example, can further government inroads be averted when only 57.1 per cent of the entire state population possesses hospitalization insurance, and when the average commercial insurance policy purchased on an individual basis covers only 56 per cent of the cost? Is the status quo good enough when we find that only 56.6 per cent of the population has prepaid protection against medical costs, and such insurance covers on the average only 68 per cent of physicians' charges for inpatient care?

3. The relatively low percentage of the public's enrollment in health insurance, coupled with the great volume of inferior health insurance purchased, demonstrates the need for an education program to help the public understand the basics of health economics.

4. The cost of health care is adversely affected by external forces, such as health insurance premiums. For example, it is not unusual for a commercial health insurance policy to return only one-half of the premium income to the insured in the form of benefits. The higher-quality commercial insurance policies are normally restricted by the companies to group contracts.

5. Oklahoma Blue Cross - Blue Shield, with premium retention factors of only 4.6 per cent and 10.4 per cent respectively, offer the masses of the people, regardless of their employment status, the best return on their health insurance dollars. Moreover, the Blues have the unique quality of affording the medical profession and the hospital industry with significant representation on their governing boards. Finally, with a demonstrated need to effect mass enrollment of Oklahoma's uninsured population on a short-range basis, the entity of Oklahoma Blue Cross - Blue Shield provides a convenient mechanism of potential capability to accomplish the objective.

#### *Recommendations:*

##### *1. Public Information Program:*

To increase the level of understanding of health economics throughout the state, and thereby to increase public confidence in the value of health services as financed through the purchase of economical, high-quality voluntary prepaid protection plans, it is recommended that the sponsors of the Oklahoma Health Economic Survey underwrite a large-scale public information program.

The program would be carried out for a minimum period of three years under the auspices of the Task Force (for purposes of credibility), and would be organized generally into the following areas of activity:

a. A public release of the results of the Health Economic Survey, together with a pronouncement of concern for the health economic welfare of the state's citizens and an announcement of corrective actions being taken by the Task Force and the purveyors of health care services.

b. The immediate implementation of action programs with attendant publicity, such as:

—Preparation and release of "position papers" on major aspects of health economics, i.e., guidelines for measuring the comparative value of health insurance policies; the costs of health care—stressing the increased value as compared to the costs of medical progress; the application of sound health economic

planning to various "publics"—such as the family unit and the employer; economics to be gained through careful utilization of health insurance benefits; the principles of health insurance; the efficiency of private enterprise in delivering services more economically than government; et cetera.

—The widespread dissemination of such information to the public through mass media techniques.

—The distribution of information through the organizations and individuals comprising the "health care industry."

—The distribution of information through such organizations as home demonstration groups.

—The organizations of community action groups in cooperation with county medical societies for the purposes of further public understanding, promoting large-scale enrollment in a high-quality prepaid protection program, and initiating action to incorporate health economic teaching in the secondary school system.

To accomplish this admittedly comprehensive program will require the hiring of a highly-skilled director and providing him with a budget for general expenses, travel, and for the design and preparation of materials with which to carry out the program. It is estimated that a program large enough to make a significant impact will require up to \$36,000 the first year and approximately \$18,000 on succeeding years, such appropriations to be shared proportionately by the sponsoring organizations of the Health Economic Survey.

*The House of Delegates is requested to endorse this recommendation and to authorize the Board of Trustees to appropriate sufficient funds from the association's surplus and savings to finance the OSMA's proportionate share of the total budget. These funds shall not exceed \$18,000 per year for three years. It is also recommended that financial assistance be requested from other organizations such as the Oklahoma Osteopathic Association, Labor, Industry and the Oklahoma Hospital Association.*

## 2. Continuation of the Task Force:

To provide a neutral mechanism to guide the action programs which are based upon the survey findings, and to provide for the continuing surveillance of health economic developments, it is recommended that the Task Force be continued for a minimum period of three years without financial appropriations, except as requested in Recommendation No. 1.

## 3. Recognition of Blue Shield:

a. In recognition of Oklahoma Blue Shield's unique cooperative relationship with the Oklahoma State Medical Association, and in view of its public service philosophy and mass enrollment techniques in providing prepaid health care protection to all Oklahoma citizens on a non-profit basis, it is recommended that the association recognize Blue Shield as the preferred fiscal agent for health care financing by endorsing the following statement:

"The Oklahoma State Medical Association readily endorses other health insurance programs which provide comparable coverage and cost, but it reserves a special endorsement for the programs offered by the Oklahoma Blue Cross and Blue Shield Plans."

b. To assist the Task Force in improving the quality of prepaid protection programs, and thereby to enhance the quantity and quality of coverage throughout the state of Oklahoma, Oklahoma Blue Cross-Blue Shield has developed a new program which is described in Appendix A.

This program will not only provide more equitable payments to the medical profession, but will represent a much greater bargain to Blue Cross and Blue Shield insureds by extending the scope of covered benefits—by affixing a more predictable value to the coverage afforded—and by providing a range of options to suit the financial abilities of the bulk of Oklahoma's middle income families.

It is recommended that the Oklahoma State Medical Association endorse the program developed by Oklahoma Blue Cross-Blue Shield in

response to the request of the Health Economic Survey Task Force for an improved product.

## RECOMMENDED PROTOTYPE PROGRAM and IMPLEMENTATION PLANS APPENDIX A

The Task Force of the Oklahoma State Medical Association has asked us to develop a Prototype Program to be put into the marketplace as soon as feasible. Our recommendations for such program and the time schedule that can be determined at this time for implementation are shown below:

### A. PROTOTYPE PROGRAM:

#### 1. Blue Cross:

a. Number of Days—90 per confinement.

b. Room Allowance—Semi-private in full and hospital's most prevalent semi-private charge toward private. Also, indemnity room allowances of \$10, \$14, \$18, \$22, \$26 and \$30.

c. Ancillary Services—Full coverage with the exception of whole blood and personal items.

d. Out - Patient Coverage — Full coverage for out-patient minor surgery and for accidental injury within 72 hours following an accident.

e. Nervous and Mental—30 days per confinement.

#### 2. Blue Shield:

a. Usual, Customary and Reasonable—Cover the Usual, Customary and Reasonable charges of the physician with, basically, the same scope of benefits as the present Blue Shield Contract. In addition, provide this contract with coinsurance on the part of the member of ten per cent, 20 per cent or 30 per cent.

b. Indemnity—For those unable to purchase Usual, Customary and Reasonable Blue Shield because of cost, continue to offer the present \$300 and \$400 Surgical Schedule with minor changes.

3. Major Medical: Group major medical contracts with \$100, \$200, \$300, \$400 or \$500 deductible; 75/25 or 80/20 coinsurance; and with \$10,000, \$15,000, \$20,000 or \$30,000 lifetime maximums.

4. Supplemental Accident Contract: Provides indemnification against costs of accidental injury up to \$150 or \$300.

5. Dental Care: Provides a protection for the member against the cost of certain areas of dental care.

6. Extended Care Facilities: Provides coverage for the member no longer needing acute hospital care but requiring skilled nursing care on an extended basis.

7. Outpatient Psychiatric Care: Protects the member against the cost of psychiatric care in certain mental health outpatient facilities.

8. Home Health Services: Provides coverage for home nursing and certain other services following a stay in a general hospital.

9. Outpatient Diagnostic X-Ray and Laboratory: Indemnifies the member against the cost of diagnostic X-ray and laboratory procedures in the outpatient department of the hospital or in the doctor's office or clinic.

10. Optical Care: Indemnifies the member against the cost of certain areas of optical care.

11. Drugs: Indemnifies the member against the cost of out-of-hospital prescription drugs.

12. Home and Office Calls: Protects the member against the cost of physicians' home and office calls.

### B. IMPLEMENTATION:

1. Short - Range — Effective September 1, 1967:

a. Blue Cross—We plan to offer the above mentioned Blue Cross Contract to both group and non-group members but limiting the room allowance selection to the \$10 to \$14 room indemnity and full semi-private coverage.

b. Blue Shield—Offer the above mentioned indemnity Blue Shield schedules. Further, the Usual, Customary and Reasonable Blue Shield Contract will be available for national and special accounts, such as, auto, steel and FEP.

2. Intermediate Range—Early in 1968:

a. Blue Cross—We will offer the \$18, \$22, \$26 and \$30 a day Blue Cross room indemnity contracts.



b. *Blue Shield*—Offer the Usual, Customary and Reasonable Blue Shield contracts to all local group and non-group members as their ability to pay indicates.

c. *Supplemental Accident*—Offer the supplemental accidental contract to all group and non-group members.

3. *Long-Range*: Items 5 through 12, under the Prototype Contract, are in various stages of development, nationally or locally, both from an underwriting and marketability point of view. As these are developed and as the market demands, they will be placed in the marketplace. Their order of listing is not intended to reflect their order of development, nor the order in which we anticipate the demand.

## SECTION II

### GOVERNMENTAL RELATIONS COMMITTEE

#### General

The Governmental Relations Committee was created a little over a year ago as a single group to consolidate the association's activities previously assigned to four separate committees: The Public Welfare Committee, The Crippled Children's Study Committee, the Committee on Medical Care for Military Dependents, and the Medicare Committee.

Your Governmental Relations Committee began its work with the general assignment of keeping abreast of significant developments in the prescribed areas of jurisdiction, and was specifically charged with the responsibility of obtaining customary and reasonable fees for professional services in governmental programs (agreements had been reached previously with Aetna, the Medicare carrier, and with the Department of Public Welfare in this respect; but a fixed fee schedule remained in force for the Dependents' Medical Care Program).

Much groundwork had been laid by the OSMA prior to the implementation of Titles XVIII and XIX of the Medicare Law: A utilization review plan was written by the OSMA to aid smaller hospitals, Medical In-

surance Review Committees were established throughout the state to pass judgment on unusual fees under the customary and reasonable fee concept, model medical staff by-laws and medical records systems were developed and distributed to chiefs-of-staff, and information was disseminated to the profession concerning the federal and state programs about to unfold.

It was observed in last year's report of the Medicare Committee that the OSMA would have little voice in policy decisions regarding federally-operated health care programs, and this statement has held true in most instances. Your committee can negotiate in some minor areas to make P.L. 89-97 more palatable to the profession, but major conflicts of interest have been met with uncompromising resistance from the federal level.

The House of Delegates established certain policy statements at the 1966 annual meeting, and your committee has endeavored to uphold these principles within the realm of its ability.

It goes without saying that the Medicare Law has lived up to expectations by its tremendous disruption of medical practice. The medical profession, which emerged as the principal critic of the bill throughout its legislative course, has now been joined by the disenchantment of growing numbers of beneficiaries, taxpayers and others who are directly involved in its administration.

After almost a full year of operation, confusion still reigns! Regulations have been issued in such volumes as to hamstring efficiency in the delivery of health services. If the profession is confused, so are the beneficiaries; so are the other providers of health services; so are the fiscal intermediaries and carriers; and, indeed, so are those in high places in the federal government.

The unhappy plight of the taxpayer has been compounded by the rising costs of private health care which are directly attributable to Medicare demands and other federal laws.

Suffice to say that a giant ball of red tape has been created by the enactment and implementation of a grossly imperfect law, a law made worse and even distorted by efforts to clarify it through regulations.

Nevertheless, the law is not likely to be repealed and more and more regulations will doubtlessly come forth as government bureaus expand their forces. Legislation has been introduced to expand the scope of Medicare. Hopefully, other legislation will at least improve the efficiency of government bureaus or retard them from forcing further impractical regulations upon an already overburdened health care industry. Medicare legislation will be covered in the report of the Council on Public Policy.

Here are some of the principal areas of concern with which your committee has been confronted since last July 1st:

#### *Delayed Payments:*

The Part B carrier for Title XVIII of Medicare, Aetna Life and Casualty Insurance Company, has been slow to remit to patients or physicians for the costs of medical services. This delay has been caused primarily by an improperly programmed computer in Baltimore (Social Security Administration) which Aetna is required to query before making payment (patient eligibility and the unpaid deductible must be confirmed).

Delays in receiving confirmation from the computer have ranged as high as six weeks, and in the early months of Medicare's operation it was not uncommon to encounter a two to three weeks' delay in receiving approval on a routine case.

Aetna's performance has also been affected by the problems of establishing an office, purchasing equipment, hiring and training of personnel, and by the cumbersome delivery of regulations, instructions and interpretations from the Bureau of Health Insurance.

Aetna staff is now working a 9½ hour day, six days a week. By the time of this annual meeting, Aetna expects to be paying for medical services on a five to seven day

cycle. Over 1,000 drafts are being mailed to doctors each day.

The Department of Public Welfare, administrator of Title XIX, is not required to become involved with the federal computer, and except for a backlog which occurred last Fall in connection with joint beneficiaries under the Old Age Assistance and Medicare programs, the department has been paying for medical services in about five days.

#### *Direct Billing vs. Assignment:*

Despite the OSMA House of Delegates urging all physicians to bill Medicare patients on a direct basis "whenever possible," surveys of the proportion of direct billings to assignments are disappointing.

It has been generally recognized that the taking of assignments on Medicare beneficiaries who are on Old Age Assistance is required by the state and federal governments if the physician expects to receive from the Department of Public Welfare the co-insurance and the unpaid deductible which are not covered by the Medicare program. Aetna estimates that claims for such OAA-Medicare beneficiaries amounts to about 45 per cent of the total claim volume.

However, on the remaining 55 per cent of Medicare claims where assignments are not required, 52.94 were assigned during March of 1967 and only 47.06 per cent were billed directly to the patients.

#### *Medical Insurance Review Committees:*

When Title XVIII and Title XIX programs were implemented in July on the "customary and reasonable fee" concept, the association took the position that the method of determining the reasonableness of medical charges would be left to the ingenuity of the carriers so long as members of the OSMA were provided with an appellate mechanism whereby questioned fees could be reviewed and settlement determined by association sponsored "Medical Insurance Review Committees."

Research was carried out by the OSMA to determine a workable plan to not only safeguard the rights of physicians but to also act with re-

sponsibility in making certain the programs were not abused.

A review program was developed and approval was granted by both Aetna and the Department of Public Welfare. Committees were established throughout the state at the county medical society level, and an OSMA committee was created for the purpose of accepting primary jurisdiction at the request of county medical societies and for serving in an appellate capacity where local rulings were questioned by any of the involved parties.

The program provides that the carrier, in a case where the charge appears to be above the acceptable range for the area, shall first communicate with the physician in an attempt to settle the problem. Failing to do so, the case must be documented by the carrier and referred to the appropriate review committee, and the physician shall be so advised. The committee shall attempt to act within 14 days, having the options of either finding in favor or against the billed charges. If the charge is determined to be unreasonable, the committee is obligated to recommend a reasonable fee for settlement.

The carrier should then notify the physician of the committee recommendation, and in the case of a reduction, the carrier should seek the concurrence of the physician to accept the amount and advise him of his right to appeal in the same correspondence.

Because of the absence of any negotiated "range of fees" for the various economic areas of the state, physician and carrier utilization of the OSMA Medical Insurance Review Committees provides the only yardstick for measuring the equity of the "customary and reasonable fee" system.

It is, therefore, rather surprising to note that since the inception of these programs last July only six cases have been referred to review committees by Aetna and none have been referred by the Department of Public Welfare.

An inference could be drawn that the "customary" fees of Oklahoma

physicians are found to be almost universally "reasonable" by the carriers. Conversely, it could be concluded that the system is not being employed for its designed and important purpose (physicians may be reducing some of their charges through direct negotiations with the carriers).

#### *Hospital-Based Specialists:*

Because of federal interpretations of the Medicare law, your committee was frustrated in its efforts to completely free some hospital-based specialists from having to receive part of their Medicare compensation from the hospitals in which they work. Where a portion of a physician's time is spent in an administrative or supervisory capacity as head of a hospital department, part of his compensation must come in what amounts to a hospital salary.

Temporary compensation arrangements were worked out by Blue Cross and Aetna, the Part A intermediary and the Part B carrier, prior to the issuance of final federal regulations in January. The payment organizations are now converting these arrangements to permanent approvals, after consultation with the affected hospitals and doctors.

#### *Communications:*

Although Titles XVIII and XIX of the Medicare Law represent the most complicated financial mechanisms ever injected into the health care field, communications between the carriers and the profession have been generally inadequate.

Problems associated with the interpretation of regulations, instructions for claim form completion, nomenclature and billing instructions, signature authority, coordination of billing for joint beneficiaries of the Title XVIII and XIX programs, eligibility requirements, and many other matters could have been lessened by regular communications from those who are most expert and closer to the day-to-day management of the programs, the carriers.

This is not to say that nothing has been done to assist the medical profession in understanding the complexities of P.L. 89-97; it is to emphasize that more could have been



done and many problems thereby avoided.

"Medicare Newsletters" were issued by the Governmental Relations Committee. However, the association is not privileged to receive the government's "Intermediary Letters" which contain interpretive policies of the federal planners, and there is therefore a limit to the amount of information which can be provided by the OSMA.

#### Competitive Factor:

The administration of various aspects of Medicare in Oklahoma has been divided among five intermediaries or carriers; Aetna, Travelers, Mutual of Omaha, Blue Cross and the Department of Public Welfare.

Not only does such divided responsibility add to the general confusion, but a competitive spirit seems to prevail between certain of these organizations, the net effect of which acts adversely against the providers of health care services who are frequently caught between the administrative differences of two agencies.

#### Cost Studies:

As predicted, the federal government has already undertaken studies as to the costs of medical and hospital care before and after Medicare. Admonishments have been issued through the national news media concerning the rising costs of health care, and the ridiculous conclusion was reached that such increases since July 1st were not related to Medicare.

Other government plans include disregard for the traditional physician-patient relationship, opposition to the fee-for-service concept, and abandonment of the free choice of physician principle.

Two matters which have occurred during the preceeding year deserve special emphasis:

#### "CHAMPUS"

As previously stated, the Governmental Relations Committee was given the responsibility of negotiating for the employment of a "customary and reasonable fee" system

in connection with the Dependents' Medical Care Program.

With the full cooperation of Oklahoma Blue Shield, the fiscal intermediary for physicians' services in Oklahoma, your committee was able to accomplish this objective. Blue Shield had previously declined to renew its contract with the Department of Defense until some decision could be reached regarding the development of a customary and reasonable fee mechanism.

OSMA and Blue Shield representatives met with government officials in Denver regarding this problem, and agreement was reached at that time to convert the payment system to the customary and reasonable fee concept beginning on February 1st for inpatient services and commencing retroactivity on all pending claims for outpatient care.

The same system employed for Medicare and the Department of Public Welfare's program (i.e., Medical Insurance Review Committees) will be used to adjudicate unusual charges.

The Dependent's Medical Care Program, now called the Civilian Health and Medical Program of the Uniformed Services ("CHAMPUS"), has been expanded by enactment of federal legislation on September 30, 1966.

Health benefits fall roughly into three broad categories:

1. Civilian inpatient and outpatient care for dependents of members of the uniformed services who are serving on active duty (more than 30 days).
2. Civilian inpatient and outpatient care for retired servicemen and their dependents, and for dependents of servicemen who died while on active duty or in a retired status.
3. Training, rehabilitation, special education and institutional care in civilian facilities for active duty servicemen's dependents who are moderately or seriously retarded mentally or who have a serious physical handicap.

Benefits for retired personnel and their dependents, both of the outpatient and inpatient variety, may be obtained directly from civilian

sources without having to first receive a "Non Availability Statement" from a military medical facility.

Dependents of active duty personnel who reside with their sponsors will still have to check first with military medical facilities before being authorized to seek civilian *inpatient* care, but this requirement is not necessary for outpatient care.

More detailed information has been mailed to all physicians by Oklahoma Blue Shield.

#### Old Age Assistance-Medicare Beneficiaries

The Medicare Law, as previously mentioned, carried two important sections, Titles XVIII and XIX.

Title XVIII provided the hospital benefit portion of Medicare automatically to all persons over age 65 and offered *voluntary* enrollment in the medical service program at the rate of \$3 per month. For medical services, enrollees are "insured" under Title XVIII to receive 80 per cent of the cost of the services after a \$50 annual deductible has been satisfied.

Title XIX liberalized the existing state-federal program for indigent persons (including Old Age Assistance) by increasing the scope of benefits offered and by enlarging the federal share in the matching formula (about 70 per cent federal and 30 per cent state funds). The Title XIX program also enabled the responsible state agency to purchase medical services from Title XVIII on behalf of Old Age Assistance recipients and, further, to use federal-state matching funds to pay the 20 per cent co-insurance and the \$50 annual deductible.

Thus, since the beginning of Medicare, Aetna has been responsible to pay a portion of Old Age Assistance recipients' medical bills and the Department of Public Welfare has been responsible to pay the balance of the physicians' customary and reasonable charges (co-insurance and deductible).

Because of the peculiarities of state law, the welfare department required a separate claim form, and physicians were in turn required to file one form with Aetna and an-

other with the welfare department in order to collect 100 per cent of their charges.

This dual billing arrangement has caused more trouble than any other feature of the Medicare Law.

For example, the two payment agencies have had considerable difficulty in matching the separate claim forms on a given case. Secondly, the delays experienced by Aetna in receiving clearance from the federal computer created at one time a backlog of some 40,000 unpaid claims at the Department of Public Welfare.

To clear up the backlog, the welfare department began paying the co-insurance and deductible claims ahead of the basic payment from Aetna and due to problems of inter-communications between the two agencies, agreement has not always been reached as to the amount of the unpaid deductible. This confused situation has resulted in over-payments and underpayments to physicians.

In an effort to simplify or eliminate the dual billing problem, a new Medicare claim form was developed which would have answered the requirements of both fiscal organizations. However, after meeting with Aetna and Department of Public Welfare officials, the Governmental Relations Committee does not believe the new form to be the answer to the total problem.

It is obvious to all that a single carrier for the OAA-Medicare "Buy-Ins" would be the most significant method of eliminating the problems caused by dual billing.

The Department of Public Welfare, as the purchaser of Title XVIII benefits of Old Age Assistance recipients, is entitled under the Medicare Law to serve as the carrier for Title XVIII payments to over 65 welfare recipients on its rolls (about 86,000 persons). Moreover, the welfare department is prohibited by state legislation from turning over its state funds under the Title XIX program to the administration of a non-governmental agency such as Aetna.

Therefore, the Department of Public Welfare has notified the Gov-

ernmental Relations Committee of the OSMA of its desire to serve as carrier for Title XVIII payments on behalf of all Medicare enrollees whose premiums have been purchased by the department with Title XIX funds.

Assurance has been received from the welfare department that the same test of reasonableness for physicians' fees will be used as is employed by Aetna, so no price differential should result from the proposed change in administration.

#### *Recommendations:*

1. *It is recommended that the House of Delegates concur with the Department of Public Welfare's proposed plan to exercise its option to serve as carrier for Part B payments under Title XVIII of Public Law 89-97 for recipients of Old Age Assistance.*

2. *Since direct billing of Medicare beneficiaries, whenever possible under the terms of Titles XVIII and XIX, permits the patient and his physician to maintain the traditional private relationship by minimizing federal involvement in matters of health without depriving the patient of any government benefits to which entitled, it is once again recommended that physicians utilize direct billing as a method of disassociating medical practice from governmental regimentation.*

3. *To reduce the administrative complications of Medicare, if possible, it is recommended that the House of Delegates strongly urge all carriers and intermediaries to improve their communications with the Oklahoma State Medical Association and individual members of the medical profession; moreover, it is recommended that carriers and intermediaries make sincere efforts to work in harmony toward a common goal of resolving administrative disagreements.*

4. *In view of the fact that Medical Insurance Review Committees were established in good faith by the Oklahoma State Medical Association in formal agreements with the carriers under Titles XVIII and XIX, and since these committees have not*

*been employed to any material degree despite a good record of objective performance, it is recommended that the association renegotiate its agreements with the involved carriers for the purpose of urging the use of such committees, and that the individual physicians of Oklahoma be continually advised by both the carriers and the OSMA of their rights to obtain fair hearings before such committees.*

5. *Since increased costs of health care have been largely generated by Medicare requirements and other federal legislation passed by the 89th Congress, and due to the federal government's attempt to purge the medical profession by transferring responsibility away from its true cause, it is recommended that all individual physicians combat this propaganda by:*

*a. Taking steps to offset the increased overhead costs imposed by the government and attempt to stabilize the charges necessary for medical services; and by*

*b. Educating their patients regarding the economic impact of federal legislation upon the costs of health care; and by*

*c. Disassociating the costs of medical care from the costs of other health services.*

#### **SECTION III**

#### **COMMITTEE ON OCCUPATIONAL MEDICINE**

##### **General**

The committee met on two occasions during the past year.

Effective liaison has been established with the Judges of the State Industrial Court and with the Oklahoma Claimsmen Association.

Industrial Court Judges, with whom the committee has held joint annual sessions for the past two years, are of the collective opinion that Oklahoma has one of the better Workmen's Compensation Laws in the United States, although they admit to certain frailties in the procedure for establishing the percentage of disability. The Judges recognize that biased reports on disability evaluation are received from a mi-



minority of physicians and other licensed practitioners, but they have confidence in their abilities to discount the opinions of known offenders and to thereby render fair judgments.

The fact that the Court is able to overcome professional bias does not lessen organized medicine's responsibility to police its own ranks. It is a sad testimony to professional ethics when the Judges estimate that 25 per cent of the physician's who are frequently involved in Industrial Court proceedings are felt to be biased in one direction or the other as to the percentage of disability.

Despite faults in the present system, however, the Judges do not believe that a major overhaul of the law is necessary. They have agreed to work closely with the OSMA committee to improve the situation, though, and will be attentive to any and all OSMA recommendations which may be made in the future.

In the meantime, your committee reminds county medical societies that disciplinary machinery exists within organized medicine to challenge the minority of medical doctors who may exceed the bounds of reasonableness in Workmen's Compensation matters.

Your committee is concerned that medical ratings on disability cases should be based upon "percentage of impairment" rather than "percentage of disability." The accurate rating of employment capability involves factors other than medical judgment, and physicians should limit their evaluations to medical findings.

A guide for medical impairment evaluation has been prepared by the American Academy of Orthopaedic Surgeons and is commended to Oklahoma physicians for their study and use.

A meeting between the Board of Directors of the Oklahoma Claimsmen Association and your committee on March 22nd marked the first formal liaison for these two groups which have so much in common.

While the meeting was devoted primarily to general discussions of the objectives of each group, claimsmen reported a number of problems in their dealings with physicians which deserve the attention of your committee in the future. Your committee has been invited to attend the annual meeting of the Oklahoma Claimsmen Association at Western Hills Lodge on October 20, 1967.

#### Activities

Since physician education is of prime importance to improve medical relationships with Workmen's Compensation, your committee has undertaken two educational projects in addition to its general liaison activities:

A special issue of the *OSMA Journal* is being prepared for June on the subjects of *Workmen's Compensation and Disability Evaluation*. Contributors include physicians, the Presiding Judge of the State Industrial Court, claimsmen and attorneys. This special issue is designed as a reference manual for the medical profession in handling industrial injury cases.

A major section program on Disability Evaluation has been included in the 1967 OSMA Annual Meeting program. The program, worked out by committee member Worth M. Gross, M.D. and the Oklahoma Orthopaedic Society, will feature a mock trial involving orthopaedic surgeons, the Presiding Judge of the State Industrial Court and attorneys for the plaintiff and the defense.

#### Recommendations:

The following recommendations are made:

##### 1. General:

a. The Occupational Medicine Committee should be continued on an indefinite basis:

b. The committee should be comprised of physicians who are known to be interested in the subject area, with particular emphasis on those who are significantly engaged in the broad aspects of industrial medicine.

c. A definite program of committee objectives and activities should be inaugurated, as follows:

##### 2. Program Activities:

a. *Workmen's Compensation*: Emphasis for the next organizational year should be concentrated in the field of workmen's compensation, although the committee should not be limited to this subject area.

b. *Physician Education*: The current educational program in disability evaluation and workmen's compensation should be continued and perhaps expanded during the succeeding organizational year. State-wide and regional meetings and printed communications should be employed.

c. *Public Education*: The role of the OSMA in educating the public in matters of occupational health and workmen's compensation should be studied and programs developed where feasible.

d. *External Liaison*: The OSMA committee should act on behalf of the association in developing liaison and two-way communications with such interested parties as:

- (1) Industrial Court Judges
- (2) Labor Unions
- (3) Associated Industries of Oklahoma
- (4) National Association of Claimants Attorneys
- (5) Oklahoma Claimsmen Association
- (6) The Insurance Industry
- (7) Safety Engineers

e. *Program Development*: The committee should undertake studies to develop a long-range program designed to improve medical relations with industry and others interested in the problems of occupational health.

#### SECTION IV

##### PREPAID MEDICAL CARE COMMITTEE

Since one of the major missions of the Council on Socio-Economic Activities, the parent group to the Prepaid Medical Care Committee, was to work with Oklahoma Blue Shield in developing an innovated prepayment program, your committee's sphere of activities was necessarily limited.

However, a resolution approved by the House of Delegates in May, 1966, was referred to the Prepaid Medical

Care Committee for follow-up action. This resolution, introduced by the Oklahoma Association of Pathologists, called for the removal of laboratory service coverage from the Blue Cross Plan and the placement of it with other professional services under the Blue Shield Plan.

Your committee, working with a representative of the Oklahoma Association of Pathologists, transmitted the resolution to the President of Oklahoma Blue Cross-Blue Shield, and pointed out that the problem which was once common to all Blue Cross-Blue Shield programs had been dealt with satisfactorily in other states.

Blue Shield acknowledged the resolution by referring it to a committee comprised of the physician members of the Blue Shield Board.

No definitive action has been taken to date. Negotiations between the Council on Socio-Economic Activities and Blue Shield regarding the development of an entirely new Blue Shield concept have overridden the consideration of amendments to the present program, but it is hoped that the laboratory problem can be solved as a part of the new design of Blue Shield.

It is your committee's understanding that the Blue Shield Board has delayed its annual meeting until late May in order to know the action of the House of Delegates regarding the Task Force report and the attendant development of a new Blue Shield program. With affirmative action on the Task Force report, more definite negotiations will ensue regarding product design and development and, hopefully, the pathology resolution will receive prominent attention at that time.

## **RESOLUTIONS**

### **Resolution No. 1.**

(APPROVED AS AMENDED)

INTRODUCED BY: Garfield-Kingfisher County Medical Society  
SUBJECT: Balanced Dues Structure  
REFERRED TO: Reference Committee No. I.

WHEREAS, the American Medical Association has been among the nations most influential professional associations for many years; and

WHEREAS, its operations have been efficiently conducted at the national level through generous support from the nation's physicians and through professionally-related earned income; and

WHEREAS, the Oklahoma State Medical Association has been among the minority of state associations which have traditionally supported the AMA through the requirement of AMA membership as a requisite to OSMA membership; and

WHEREAS, the AMA has been sensitive to the democratic functioning of organized medicine by placing emphasis upon the primary responsibilities of individual physicians, county medical societies and state medical associations to play vital roles in the management of medical affairs; and

WHEREAS, the present AMA dues of \$70 annually will undoubtedly expand the capacity of the AMA in meeting its national responsibilities, such expansion should not result in the economic deprivation of component medical societies who form the foundation of AMA effectiveness; and

WHEREAS, additional AMA dues increases have been advocated for future years, perhaps to raise the total annual contribution to \$100; and

WHEREAS, further escalation of national dues will tend to centralize medical organizational activities by imposing a budgetary imbalance at the county and state levels of organized medicine, to the detriment of the medical profession's overall effectiveness;

NOW, THEREFORE BE IT RESOLVED, that the Oklahoma State Medical Association is opposed to any further increases in American Medical Association dues; and

BE IT FURTHER RESOLVED, that all future dues requests at the national level shall be opposed or supported, as the situation warrants, by official action of the Oklahoma State Medical Association's House of Delegates or Board of Trustees; and

BE IT FURTHER RESOLVED, that the Oklahoma State Medical Association shall, for the reasons cited

above and without prejudice regarding the AMA, be generally inclined toward strengthening the financial capability of county medical societies and the OSMA in preference to creating a stronger national organization.

### **Resolution No. 2.**

(APPROVED)

INTRODUCED BY: OSMA State Legislative Committee

SUBJECT: Annual AMA Education Conference for State Legislators  
REFERRED TO: Reference Committee No. II.

WHEREAS, the making of sound laws throughout our nation is drawing increased interest and activity on the part of organized medicine; and

WHEREAS, enactment of laws by state legislatures is equally as important as national legislation; and

WHEREAS, state medical associations throughout the country are stepping up the tempo in working with their respective state legislators in order to bring about sound medical legislation; and

WHEREAS, it is of paramount importance that state lawmakers must be better informed on matters relating to the complexities of medical science and public health before they can appropriately be expected to initiate or enact laws which are in keeping with qualify health and medical practice; and

WHEREAS, state medical associations have and must continue to furnish the bulk of appropriate educational information to state lawmakers, through the many mechanisms available; and

WHEREAS, the AMA from time to time sponsors and conducts national meetings of educational interest to physicians and staff personnel from throughout the U.S.; and

WHEREAS, a few of these national programs, such as the Third National Congress on Medical Quackery, successfully conducted in Chicago on October 7th-8th, 1966, have been conducive to and successfully utilized by a few state medical associations to provide an additional vehicle to further educate selected state lawmakers on current problems and possible solutions where



matters relating to healing arts and public health are concerned; and

WHEREAS, attendance by state legislators at these several AMA events has resulted in their better understanding medicine's role in maintaining the nation's health; and

WHEREAS, those lawmakers receiving this basic understanding have subsequently proven to be real assets in terms of their willingness to assist medicine in the legislative arenas;

NOW, THEREFORE BE IT RE-

SOLVED, that the American Medical Association plan at least one national program a year which would be of material educational value to the states and their selected legislators; and

BE IT FURTHER RESOLVED, that such a program or programs might well cover a number of given problem areas or subjects such as quackery, mental health, medical schools, medical and allied manpower shortages, hospitals, et cetera; and

BE IT FURTHER RESOLVED, that the Board of Trustees of the

AMA be authorized to determine whether the AMA's budget will permit paying travel and other expenses incurred by a given number of lawmakers per state while attending the national program; and

BE IT FURTHER RESOLVED, that at such time when a program format is finalized, adequate notice and invitations be sent to the state medical association and that state medical associations will in turn be solely responsible for selecting and inviting key legislators whom they wish to attend the national educational event. □

## REMEMBER!

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## BOOK REVIEWS

**CURRENT DIAGNOSIS AND TREATMENT.** By Henry Brainerd, M.D., Sheldon Margen, M.D., and M. J. Chatton, M.D. Fourth edition. 885 pp., Los Altos, California, Lange Medical Publications.

The fourth edition of this publication is designed to serve the practicing physician as a desk reference concerning diagnosis and therapy. It is revised annually and distributed in January. Thirty-three authors have contributed to this edition which contains 885 pages. As stated by the authors it is not intended to be used as a text. Actually, it contains relatively little that a well organized textbook does not. There are some useful appendices such as weight conversion tables, graphic technique for heart-lung resuscitation, details of certain recently introduced and investigational drugs, drugs withdrawn from the market, and discussion of methodology of chemical analysis of blood and body fluids. A new chapter on medical genetics has been added to

this edition. It can serve as a useful reference for the physician but it should not be used in lieu of more complete texts.—*Harris D. Riley, Jr., M.D.*

### CONGESTIVE HEART FAILURE.

By Ralph A. Meyerson, B.S., M.D., F.A.C.P., and Bernard H. Pastor (Deceased), A.B., M.D., F.A.C.P., etc. Cloth, 169 pp. With 38 illustrations. The C. V. Mosby Company, St. Louis, 1967.

Congestive heart failure is a common clinical problem encountered by almost all physicians regardless of their field of practice. Treatment is normally empirical with little thought being given to the basic pathophysiology in spite of advances in medical knowledge of this clinical syndrome. The subject is not well covered in the standard clinical texts. The announced purpose of this volume is "to correlate the fundamental disturbances present in congestive heart failure with the clinical picture and therapy" and to an extent rarely seen in textbooks this is achieved.

The book is short, easily read, and quite clearly written. Chapter 1 is a short, but to the point discussion of normal cardiac function down to the cellular level and includes a discussion of the peripheral vessels and the cardiac responses to stress. Presented in the second chapter is a discussion of the etiology and pathogenesis of congestive heart failure including changes from the gross to the molecular levels. It should be emphasized that these are practical and not esoteric discussions. In the third chapter there is a detailed and well illustrated discussion on the diagnosis of congestive heart failure in all aspects. Chapters 4, 5, and 6 discuss the treatment, and emphasizes the rationale of the methods discussed. At the end of each chapter there is a list of selected references that are as stated, viz., selected and to the point.

The volume seems expensive, considering the number of pages, however, it is well worth the price as a clear, concise, summary for the practicing physician of a familiar but difficult clinical problem.—*W. M. Thompson, Jr., M.D.* □

## Miscellaneous Advertisements

**WANTED:** Internist, Board Certified or Board eligible; full time in 390-bed general medical and surgical hospital; duties consist primarily of inpatient care with some outpatient clinic duties; beginning salary \$12,873 to \$20,585, depending upon qualifications plus liberal fringe benefits including annual and sick leave; insurance and retirement plan; non-discrimination in employment. Contact: Chief of Staff, Veterans Administration Hospital, Honor Heights Drive, Muskogee, Oklahoma.

**PRACTICE OPPORTUNITY** for one or two general practitioners in community of 3,400 population. Clinical building ready for occupancy at Highway 66 and Dewey, Chandler, Oklahoma. Contact Mrs. Phyllis A. Seelig, or H. B. Jenkins, M.D., Chandler, Oklahoma.

**LOCUM TENENS** wanted. Available July and August, 1967. Have served rotating internship and will complete one-year residency in obstetrics and gynecology in June. Contact Gary F. Strebel, M.D., 835 Madison, Oklahoma City. Phone GA 7-1353.

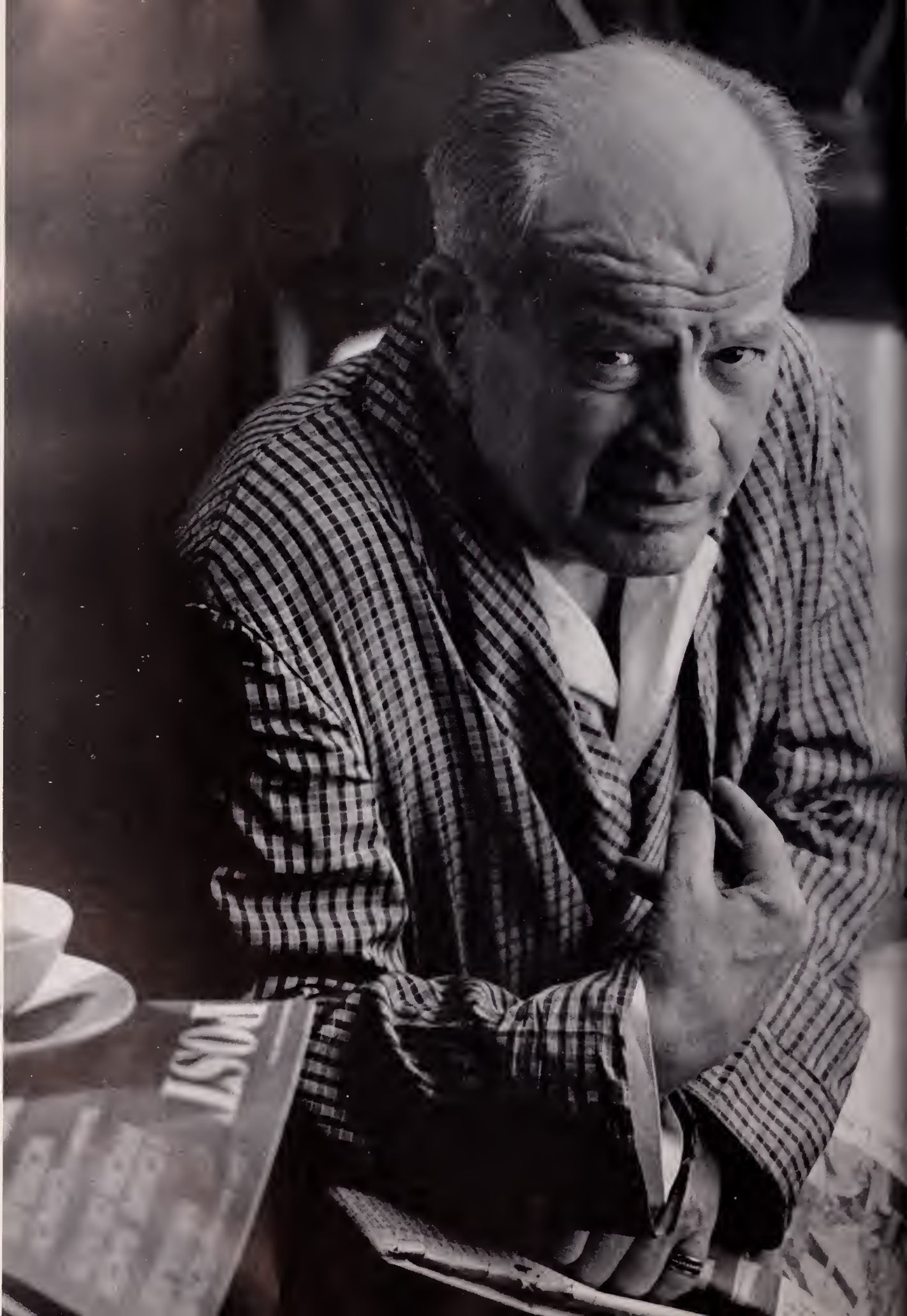
**FOR SALE:** Two surgical laparotomy sets; two D & C sets; one hemorrhoidectomy set; one cystoscope; one tracheotomy set; one T & A set; one complete set bone instruments with pins, nails, plates, etc. Contact D. W. McCauley, M.D., V.A. Hospital, Muskogee, Oklahoma.

**PATHOLOGIST,** \$40,000 guarantee; growing 100-bed hospital; oil area, 20,000 population. Apply American Medical Personnel, 159 East Chicago, Chicago, Illinois 60611.

**TIRED of HIGH RENT?** Lease coming due? Consider desirable space, reasonable rent, Northwest area, five-room suite for specialty or general practice. Share reception room with established practitioner. Contact Elmer Ridgeway, Jr., M.D., 3601 North May Avenue, Oklahoma City.

**PHYSICIAN** for clinical pharmacology institutional work to complete a staff of three physicians. No special training required. Time is divided about equally between research and clinic. Forty-hour week with rotation of night and weekend call. Start at \$18,000 depending on qualifications. Ample vacation, sick leave and other fringe benefits. Contact James D. Moore, M.D., P.O. Box 274, McAlester, Oklahoma or call 918 GA 3-3833. □





# I'm supposed to get up and do things?

## With my heart?

It's entirely natural—and may even be desirable—for the cardiovascular patient to be somewhat anxious about himself.

But when anxiety leads to unreasonable self-imposed limitations and restrictions . . . when it aggravates cardiovascular symptoms . . . when it interferes with restful sleep, measures to help alleviate the anxiety are probably in order.

One measure, of course, is reassurance. Another, adjunctive measure, is EQUANIL (meprobamate).

Over a decade of experience has shown that EQUANIL (meprobamate) is generally well tolerated as well as effective. Side effects are usually limited to transient drowsiness; serious, therapy-interrupting side effects are rare.

**Cautions:** Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use may result in dependence or habituation in susceptible persons—as ex-addicts, alcoholics, severe psychoneurotics. After prolonged high dosage, drug should be withdrawn gradually to avoid possibly severe withdrawal reactions including epileptiform seizures. Side effects include drowsiness and, rarely, allergic or idiosyncratic reactions. These reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Mild reactions are characterized by urticarial or erythematous maculopapular rash. Acute non-thrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever have been reported. Meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioneurotic edema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. Warn patients of possible reduced alcohol tolerance. Should drowsiness, ataxia, or visual disturbances occur, dose

should be reduced. If symptoms persist, patients should not operate vehicles or dangerous machinery. A few cases of leukopenia, usually transient, have been reported following prolonged dosage. Other blood dyscrasias—aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis and hemolytic anemia—have occurred rarely, almost always in the presence of known toxic agents. One fatal case of bullous dermatitis following intermittent use of meprobamate with prednisolone has been reported. Prescribe very cautiously for patients with suicidal tendencies. Suicidal attempts should be treated with immediate gastric lavage and appropriate supportive therapy.

**Contraindications:** History of sensitivity to meprobamate.

**Composition:** Tablets, 200 mg. and 400 mg. meprobamate. Coated Tablets, WySEALS® EQUANIL (meprobamate) 400 mg. Continuous-Release Capsules, EQUANIL L-A (meprobamate) 400 mg.

**American Hospital Formulary Service Category No. 28:16.08**

A quality controlled product of  
Wyeth Laboratories Philadelphia, Pa.

to help relieve anxiety and tension occurring  
alone or secondary to organic disease

**Equanil<sup>®</sup>**  
(meprobamate)





*removes the mental blur*



*that clouds vision*

# SOLFOTON<sup>®</sup>

*Each tablet or capsule contains*

PHENOBARBITAL . . . . . 16 mg.

(Warning: may be habit forming)

BENSULFOID<sup>®</sup> (See P D R) . . . . . 65 mg.

Precaution: same as 16 mg. of phenobarbital



## *Constructive Therapy*

A Solfoton tablet or capsule at 6 hour intervals maintains sedation at the threshold of calmness, sustaining a mental climate for purposeful living.

*Literature and clinical samples sent upon request.*

FEDERAL LAW PROHIBITS DISPENSING  
WITHOUT PRESCRIPTION

### — AVAILABLE —

*Solfoton* (yellow, uncoated tablets "P")  
100s, 500s, 5000s

*Solfoton Capsules* (yellow and brown)  
100s, 500s, 1000s

*Solfoton S/C* (sugar-coated beige tablets)  
100s, 500s, 4000s

WM. P. POYTHRESS & CO., INC.  
RICHMOND, VIRGINIA 23217

*Manufacturers of ethical pharmaceuticals since 1856*

**RENEW  
YOUR PROFESSIONAL**

**LIABILITY  
INSURANCE**

**WITH**

# INA

(Insurance Company of North America)

**THE ONLY COMPANY**

**ENDORSED BY**

**THE OKLAHOMA**

**STATE MEDICAL**

**ASSOCIATION**

OKLAHOMA STATE MEDICAL ASSOCIATION



## When eating fads of teens or tots Lead to a sudden case of "trots"

Parepectolin for quick relief of acute diarrhea  
... soothes colicky pain with paregoric\*  
... consolidates fluid stools with pectin  
... adsorbs irritants with kaolin,  
and protects intestinal mucosa

In children, Parepectolin may be used to control diarrhea promptly and prevent dehydration until etiology has been determined. In some cases, Parepectolin may be all the therapy necessary.



# Parepectolin<sup>®</sup>

Each fluid ounce of creamy white suspension contains:

\*Paregoric (equivalent) ..... (1.0 dram) 3.7 ml.  
Contains opium ( $\frac{1}{4}$  grain) 15 mg. per fluid ounce.

*warning: may be habit forming*

Pectin ..... (2½ grains) 162 mg.  
Kaolin (specially purified) ..... (85 grains) 5.5 Gm.  
(alcohol 0.69%)

Usual Children's Dose: One or two teaspoonfuls three times daily.



**WILLIAM H. RORER, INC.**  
Fort Washington, Pa.

# mudrane<sup>®</sup>

for

- EMPHYSEMA
- ASTHMA
- CHRONIC BRONCHITIS
- BRONCHIECTASIS

*The  
fast-disintegrating  
uncoated tablet  
gives relief in  
15 minutes*

*Each tablet contains:*

Potassium Iodide..... 195 mg.  
Aminophylline..... 130 mg.  
Phenobarbital, Caution: May be habit forming... 21 mg.  
Ephedrine HCl..... 16 mg.

FEDERAL LAW PROHIBITS  
DISPENSING WITHOUT PRESCRIPTION

Precautions: Usual for aminophylline-ephedrine-phenobarbital. Iodides may cause nausea, long use may cause goiter. Discontinue if symptoms of iodism develop.

Iodide contraindications: tuberculosis, pregnancy.

### DOSAGE

One tablet, with full glass of water, 3 or 4 times daily.

*Dispensed in bottles of 100 and 1000 tablets.*

MUDRANE GG—Formula, dosage and package identical to Mudrane—*except*—100 mg. glyceryl guaiacolate replaces the potassium iodide. The value of Mudrane cannot be enjoyed by a small group in which K.I. is contraindicated. Mudrane GG is prepared for this group.

MUDRANE GG ELIXIR—Four 5 cc teaspoonfuls is equivalent to one Mudrane GG tablet. Dosage adjusted to age and weight of child. Mudrane GG Elixir is for pediatric patients and those who think they cannot swallow tablets. Dispensed in pint and half gallon bottles.

WM. P. POYTHRESS & CO., INC.  
RICHMOND, VIRGINIA 23217

*Manufacturers of ethical pharmaceuticals since 1856*





# STANDARD CLAIM FORM

APPROVED BY THE OKLAHOMA STATE MEDICAL ASSOCIATION AND THE ASSOCIATION OF HEALTH AND ACCIDENT INSURORS OF

INSURANCE COMPANY	ADDRESS
-------------------	---------

TO

## ATTENDING PHYSICIAN'S REPORT

1 PATIENT'S NAME	2. ADDRESS
------------------	------------

4 DIAGNOSIS (EXPLAIN COMPLICATIONS)

5 ADDITIONAL DIAGNOSES (CHRONIC DISEASE OF DEFECT FOUND DURING PRF)

6 DATE OF ONSET	7 DATE FIRST CONSULTED	8 DUE TO PREGNANCY <input type="checkbox"/> YES <input type="checkbox"/>
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11 SURGICAL OR OBSTETRICAL PROCEDURES (DESCRIBE)

12 IF HOSPITALIZED, NAME AND ADDRESS OF

15 NAME AND ADDRESS OF OTHER

COMPLETE IF PATIENT

16 TOTAL DISAP

FROM

17 P

PLEASE ATTACH TO COMPLETED INSURANCE CLAIM FORM

# STANDARD INSURANCE REPORTING FORMS For Oklahoma Physicians

## STATEMENT FOR PROFESSIONAL SERVICES RENDERED

APPROVED BY THE OKLAHOMA STATE MEDICAL ASSOCIATION

PHYSICIAN'S NAME	PATIENT'S NAME
ADDRESS	

COMPLETE FOR MEDICAL CARE ONLY: AT HOSPITAL, HOME, OR OFFICE  
GIVE THE DATES OF TREATMENT BY INSERTING MONTH AND YEAR. INDICATE EACH  
H—HOSPITAL V—HOME O—OFFICE OR CLINIC

MONTH AND YEAR	1	2	3	4	5	6	7	8	9	10	11	12

PLEASE STATE YES

HOSP

### Form 101

STANDARD CLAIM FORM

1 Pad . . . . \$ .70  
(50 Forms)  
3 Pads . . . . 1.95  
(150 Forms)  
6 Pads . . . . 3.75  
(300 Forms)  
12 Pads . . . . 6.60  
(600 Forms)

SAMPLE FORMS  
SENT ON REQUEST

### Form 102

STATEMENT FOR  
PROFESSIONAL SERVICES  
RENDERED

1 Pad . . . . \$ .80  
(50 Forms)  
3 Pads . . . . 2.25  
(150 Forms)  
6 Pads . . . . 4.35  
(300 Forms)  
12 Pads . . . . 7.70  
(600 Forms)

Plus Oklahoma Sales Tax. Remit with order and postage will be paid.

## ORDER FORM

Enter our order as listed on the left and ship to the address below.

TRANSCRIPT PRESS  
P.O. Drawer 1058  
Norman, Oklahoma • 73069

FORM 101 . . . . Pads

FORM 102 . . . . Pads

☐ Check Enclosed

Amount

☐ Bill Me

Signature

Address

City

★  
OSMA  
APPROVED  
★

Prepared by the Insurance Committee of the Oklahoma State Medical Association these forms are designed to simplify this tedious office procedure. FORM 101, Standard Claim Form and FORM 102 Statement for Professional Services Rendered are available immediately in pads of 50. See price list below and order now . . . use the handy order form.

★

The  
AMBAR  
SCRAPBOOK  
of

# Obesity Oddities

FACT & LEGEND

CHARLES  
DICKENS'  
"FAT BOY JOE"  
in Pickwick Papers

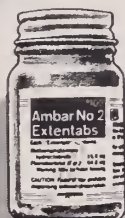
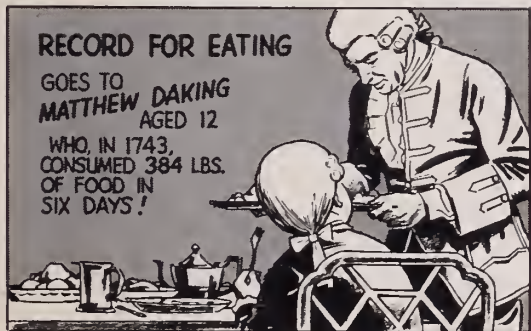
IS THE FIRST RECORDED CASE OF  
OBESITY WITH NARCOLEPSY  
DR. C. SIDNEY BURWELL COINED THE  
TERM "PICKWICKIAN SYNDROME" IN 1955!



## RECORD FOR EATING

GOES TO  
MATTHEW DAKING  
AGED 12

WHO, IN 1743,  
CONSUMED 384 LBS.  
OF FOOD IN  
SIX DAYS!



## The Cost of AMBAR EXTENTABS

IS APPROXIMATELY  
ONE-HALF THAT OF  
OTHER LEADING  
APPETITE  
SUPPRESSANTS.



AN IMPORTANT FACTOR  
IN LONG-TERM THERAPY!

CONTROL FOOD AND MOOD ALL DAY LONG WITH A SINGLE MORNING DOSE

## AMBAR #2 EXTENTABS®

methamphetamine HCl 15 mg.,  
phenobarbital 64.8 mg. (1 gr.)  
(Warning: may be habit forming).

One Ambar Extentab before breakfast can help control most patients' appetite for up to 12 hours. Methamphetamine, the appetite suppressant, gently elevates mood and helps overcome dieting frustrations. Phenobarbital, the sedative in Ambar, controls irritability and anxiety...helps maintain a state of mental calm and equanimity. Both work together to ease the tensions that erode the willpower during periods of dieting.

Also available: Ambar #1 Extentabs®—methamphetamine hydrochloride 10 mg., phenobarbital 64.8 mg. (1 gr.) (Warning: may be habit forming).

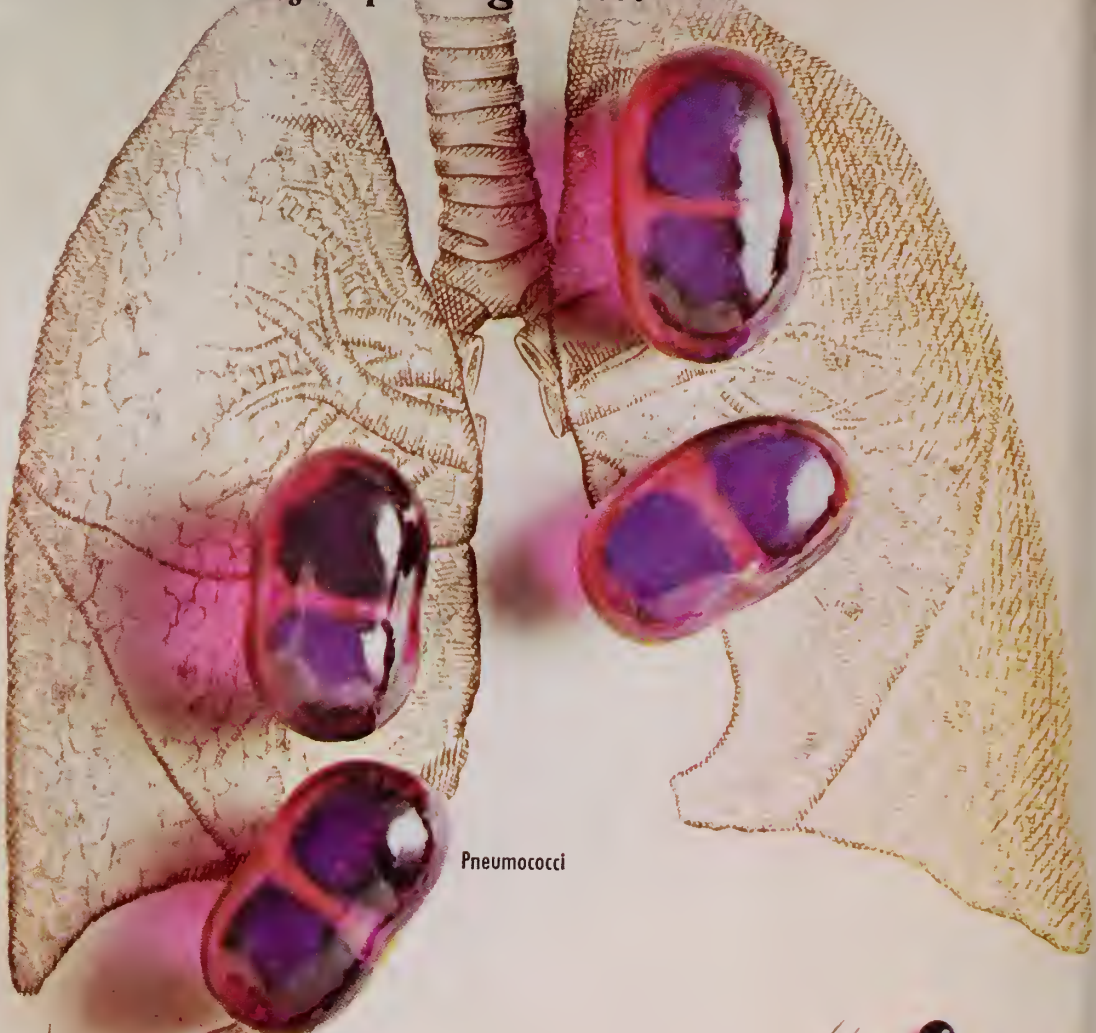
**BRIEF SUMMARY/Indications:** Ambar suppresses appetite and helps offset emotional reactions to dieting. **Contraindications:** Hypersensitivity to barbiturates or sympathomimetics; patients with advanced renal or hepatic disease. **Precautions:** Administer with caution in the presence of cardiovascular disease or hypertension. **Side Effects:** Nervousness or excitement occasionally noted, but usually infrequent at recommended dosages. Slight drowsiness has been reported rarely. See package insert for further details.

A. H. ROBINS COMPANY,  
RICHMOND, VA. 23220

A-H-ROBINS



Against these three major pathogens...



Pneumococci

Penicillin-Sensitive  
Staphylococci



Beta-Hemolytic  
Streptococci



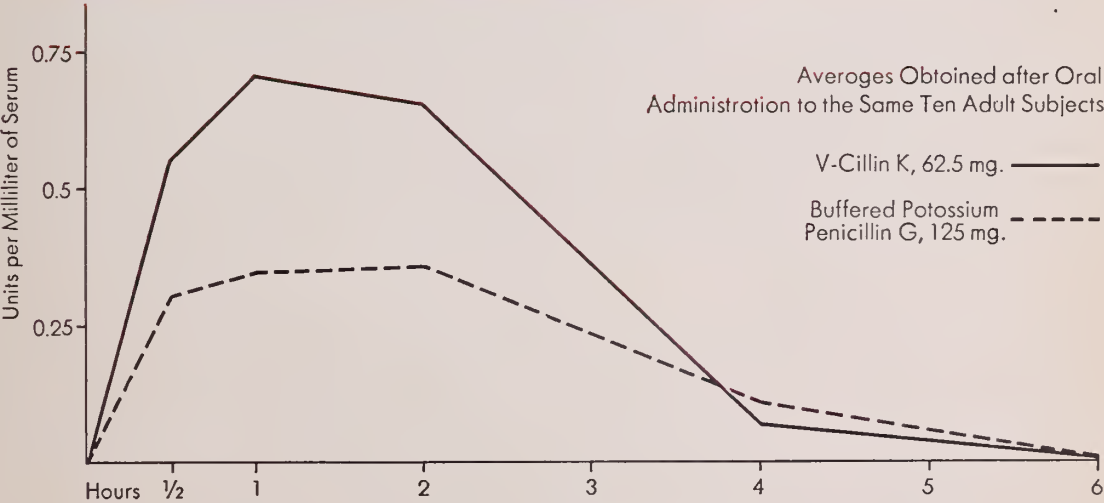
# V-Cillin K<sup>®</sup> provides dependable oral antibacterial activity

because it combines a high degree of in-vitro activity...

Antibiotic	Stoph.Aureus (Penicillin-Sensitive)		Streptococcus, Group A		Diplococcus Pneumoniæ	
	MIC (mcg./ml.) Median	Range	MIC (mcg./ml.) Median	Range	MIC (mcg./ml.) Median	Range
Penicillin V	0.02	0.02-0.04	0.02	0.003-0.4	0.01	0.005-0.2
Penicillin G	0.02	0.005-1.6	0.005	0.002-0.2	0.02	0.01-0.1
Methicillin	1.6	0.4-6.3	0.2	0.1-0.4	0.2	0.1-1.6
Oxocillin	0.4	0.1-3.1	0.04	0.02-0.4	0.1	0.04-0.8
Cloxacillin	0.2	0.2-0.8	0.1	0.1-0.8	—	—
Nafcillin	0.4	0.2-0.8	0.04	0.02-0.1	0.02	0.02-0.2
Ampicillin	0.2	0.1-0.8	0.02	0.01-0.04	0.02	0.01-0.04

Adapted from Klein, J. O., and Finland, M.: New England J. Med., 269:1019, 1963.

with high blood levels, even in the presence of food



Adapted from Griffith, R. S., and Black, H. R.: Current Ther. Res., 6 253, 1964.

V-Cillin K<sup>®</sup>  700636  
Potassium Phenoxymethyl Penicillin

(See next page for prescribing information)



# New 500 mg. tablets... a more convenient way to give high doses



**Description:** V-Cillin K is the potassium salt of V-Cillin® (phenoxy-methyl penicillin, Lilly). This chemically improved form combines acid stability with immediate solubility and rapid absorption. Higher serum levels are obtained more rapidly with this penicillin than with equal oral doses of penicillin G. The higher serum levels and acid stability of V-Cillin K make it a more dependable penicillin for oral use.

V-Cillin K, Pediatric, is an oral solution of clinically proved V-Cillin K in teaspoon dosage form. When mixed as directed, each 5 cc. (approximately one teaspoonful) will contain 125 mg. (200,000 units) phenoxy-methyl penicillin as the potassium salt.

**Indications:** V-Cillin K has been shown to be effective in the treatment of streptococcus, pneumococcus, and gonococcus infections as well as infections caused by sensitive strains of staphylococci. It may be used for the prophylaxis of streptococcus infections in patients with a history of rheumatic fever and for the prevention of bacterial endocarditis after tonsillectomy and tooth extraction in those patients with a history of rheumatic fever or congenital heart disease.

**Contraindication:** V-Cillin K should not be administered to a patient with a history of penicillin hypersensitivity.

**Warnings:** In rare instances, the use of penicillin may cause acute anaphylaxis which may prove fatal unless promptly controlled. This type of reaction appears more frequently in patients with a history of sensitivity reactions to penicillin and in those with bronchial asthma or other allergies. Resuscitative drugs should be readily available for emergency administration. These include epinephrine and pressor drugs (as well as oxygen for inhalation) for relief of immediate allergic manifestations and antihistamines and corticosteroids for delayed effects.

**Precautions:** V-Cillin K should be used cautiously, if at all, in a patient with a strongly positive history of allergy.

In prolonged therapy with penicillin, and particularly with high parenteral dosage schedules, frequent evaluation of the renal and hematopoietic systems is recommended.

In suspected staphylococcus infections, proper laboratory studies (including sensitivity tests) should be performed.

The use of penicillin may be associated with the overgrowth of penicillin-insensitive organisms. In such cases, its administration should be discontinued, and appropriate measures should be taken.

**Adverse Reactions:** Although serious allergic reactions are much less common with administration of oral penicillin than with intramuscular forms, manifestations of penicillin allergy may occur.

Penicillin is a substance of low toxicity, but it does possess a significant index of sensitization. The following hypersensitivity reactions associated with the use of penicillin have been reported: skin rashes ranging from maculopapular eruptions to exfoliative dermatitis; urticaria; and reactions resembling serum sickness, including chills, fever, edema, arthralgia, and prostration. Severe and often fatal anaphylaxis has occurred (see Warnings). Hemolytic anemia, leukopenia, thrombocytopenia, and nephropathy are rarely observed side-effects and are usually associated with high parenteral dosage.

**Administration and Dosage:** For Tablets V-Cillin K and for V-Cillin K Pediatric, the usual dosage ranges from 125 mg. (200,000 units) three times a day to 500 mg. (800,000 units) every four hours. For infants the daily dosage may be 50 mg. per Kg. of body weight divided into three doses.

Beta-hemolytic streptococcus infections without associated bacteremia may be treated with 200,000 to 400,000 units three times a day. Therapy should be continued for a minimum of ten days to prevent development of rheumatic fever and/or other serious complications. Dosage for routine streptococcus prophylaxis in patients with a history of rheumatic fever or congenital heart disease may be 200,000 units once or twice daily. When such patients undergo tonsillectomy, tooth extraction, or other minor surgery, the prophylactic dose should be 500,000 units every six hours given two days prior to surgery and for two days postoperatively. If oral medication is not feasible on the day of surgery, parenteral therapy should be considered. Mild to moderately severe pneumococcus pneumonia has been treated effectively with 250 mg. every six hours.

In staphylococcus infections, 400,000 units or more should be given every six to eight hours in conjunction with indicated surgical procedures.

For gonorrhea in males, 500 mg. (800,000 units) every four hours for three doses may be employed; in females, 500 mg. every four hours for six doses are recommended. Refractory infections generally respond to a second treatment three to four days following completion of the first. Treatment of gonorrhea with severe complications should be individualized, with prolonged and intensive treatment. Patients with a suspected lesion of syphilis should have a dark-field examination before receiving penicillin and monthly serologic tests for a minimum of three months.

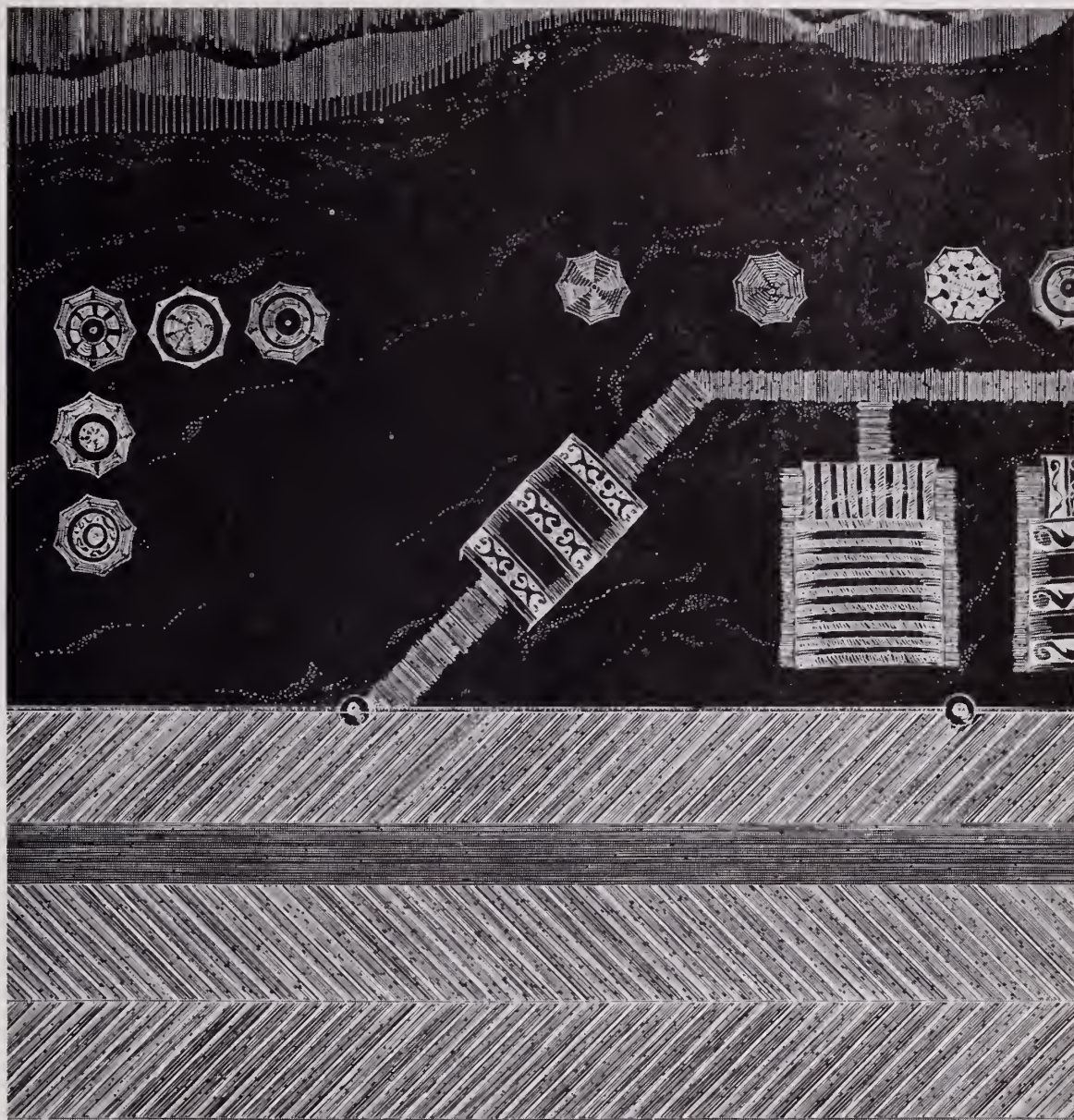
**How Supplied:** Tablets V-Cillin K, U.S.P., 125 mg. (200,000 units), in bottles of 50 and 100; and 250 mg. (400,000 units) and 500 mg. (800,000 units), in bottles of 24 and 100.

V-Cillin K, Pediatric, for Oral Solution, 125 mg. (200,000 units) per 5 cc. of solution, in 40, 80, and 150-cc.-size packages. (032067)

Additional information available to physicians upon request. Eli Lilly and Company, Indianapolis, Indiana 46206.







*AMA • 116th Annual Convention • Atlantic City, New Jersey • June 18-22, 1967*

Come to Atlantic City—one of America's favorite by-the-sea playgrounds—and join your colleagues at the AMA's 116th ANNUAL CONVENTION!

Fine hotels and motels, excellent restaurants, plus all the advantages of a lively resort make this year's Convention a must for you and your family. Atlantic City provides a superb setting for a summer classroom and all the latest techniques of modern medicine. Plan to be one of the participants in this rewarding four day postgraduate education program.

• Four general scientific sessions • 23 section programs • 575 scientific and industrial exhibits. Lectures, panel discussions, motion pictures, and color television. Plan to attend—continue your postgraduate education.

RESERVE NOW for the SCIENTIFIC AWARDS DINNER in honor of the Scientific Award Winners—Wednesday, June 21, 1967. Since space is limited, we suggest you make your reservations before June 1, 1967. Tickets are \$10.00 each, payable in advance.

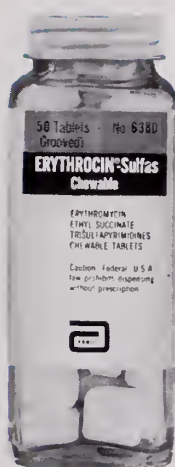
See JAMA May 8, 1967 for complete scientific program—forms for advance registration and hotel accommodations.





Perhaps there have been times when you wanted to prescribe erythromycin and triple sulfas for little patients. Now you can—with a choice of two new fine-tasting pediatric forms.

# **New—Two Pediatric Forms of Erythromycin and Triple Sulfas**



## **ERYTHROCIN®-SULFAS Chewable** (Erythromycin ethyl succinate-trisulfapyrimidines chewable tablet)

In clinical trials<sup>1,2</sup>, this orange-flavored tablet was given to 55 patients, aged four months to 18 years.

Diagnoses (multiple in some cases) represented a cross section of bacterial infections commonly seen in pediatric office practice.

Therapy was given from three to 12 days, with an average of six days.

Of the 55 patients, 30 were reported cured within 72 hours, while 22 showed partial recovery within the same time, and subsequent clinical cure.

**A clinical cure rate of 94.5%**

## **ERYTHROCIN®-SULFAS Granules** (Erythromycin ethyl succinate-trisulfapyrimidines granules for oral suspension)

87 patients were treated<sup>1,2</sup>—all children, ages four months to 15 years.

The diagnoses were multiple in some cases and were chiefly bacterial infections of the respiratory tract.

Dosage was maintained from three to 10 days; average treatment was five days. All of the ill children accepted the orange-flavored suspension favorably.

53 were clinically cured within 72 hours, while 32 showed partial relief within the same time, and subsequent clinical cure.

701358

**A clinical cure rate of 97.7%**

1. Case Reports on File, Dept. Clin. Development, Abbott Laboratories.
2. Polley, R.F.L., Use of Erythromycin-Sulfas in Office Practice, Western Med., 7:177, July, 1966.



Brief  
Summary  
on next  
page



## ERYTHROCIN®-SULFAS

### Brief Summary

**Contraindications:** Known sensitivity to erythromycin or sulfonamides. Because of the possibility of kernicterus with sulfonamides, do not use in pregnancy at term, premature or newborn infants.

**Warnings:** As with other forms of sulfonamide therapy, carefully evaluate patients with liver or kidney damage, urinary obstruction, or blood dyscrasia. Deaths have been reported from hypersensitivity reactions and blood dyscrasias following use of sulfonamides. Perform blood counts and liver and kidney function tests if used repeatedly at close intervals or for long periods.

**Precautions, Side Effects:** Occasionally mild abdominal discomfort, nausea or vomiting may occur with erythromycin, generally controlled by reduction of dosage. Mild allergic reactions (such as urticaria and other skin rashes) may occur. Serious allergic reactions have been extremely infrequent. Use sulfonamides with caution in patients with a history of allergy. Assure adequate fluid intake to prevent crystalluria and institute alkali therapy if indicated. If overgrowth of nonsusceptible organisms occurs, withdraw the drug and institute appropriate treatment. If a patient should show signs of hypersensitivity, appropriate countermeasures (e.g. epinephrine, steroids, etc.) should be administered and the drug withdrawn.

**Adverse Reactions:** Sulfonamide therapy may be associated with headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

Side effects due to erythromycin are infrequent, but occasional abdominal discomfort, nausea, or vomiting, urticaria and other skin rashes may occur.

**Supplied:** The Granules for Oral Suspension come in bottles of 60 ml. and 150 ml. The Chewable tablets are in bottles of 50. Each 5-ml. teaspoonful of reconstituted Granules or each Chewable tablet provides erythromycin ethyl succinate equivalent to 125 mg. of erythromycin activity and 167 mg. of each of sulfadiazine, sulfamerazine and sulfamethazine.



701358



# LONDON

JOIN THE OSMA  
EUROPEAN TOUR

July 17 – August 7, 1968



# after surgery

*B and C vitamins are therapy:* Therapeutic amounts of B and C in stress formula vitamins often are vital during periods of physiologic stress. STRESSCAPS capsules, designed to meet increased metabolic demands, aid in achieving a more comfortable convalescence, a more rapid recovery. After surgery, as in many stress conditions, STRESSCAPS vitamins are therapy.



## Stresscaps®

Stress Formula Vitamins Lederle



Each capsule contains:

Vitamin B <sub>1</sub> (Thiamine Mononitrate)	10 mg
Vitamin B <sub>2</sub> (Riboflavin)	10 mg
Vitamin B <sub>6</sub> (Pyridoxine HCl)	2 mg
Vitamin B <sub>12</sub> Crystalline	4 mcgm
Vitamin C (Ascorbic Acid)	300 mg
Niacinamide	100 mg
Calcium Pantothenate	20 mg

Recommended intake: Adults, 1 capsule daily, for the treatment of vitamin deficiencies. Supplied in decorative "reminder" jars of 30 and 100; bottles of 500.

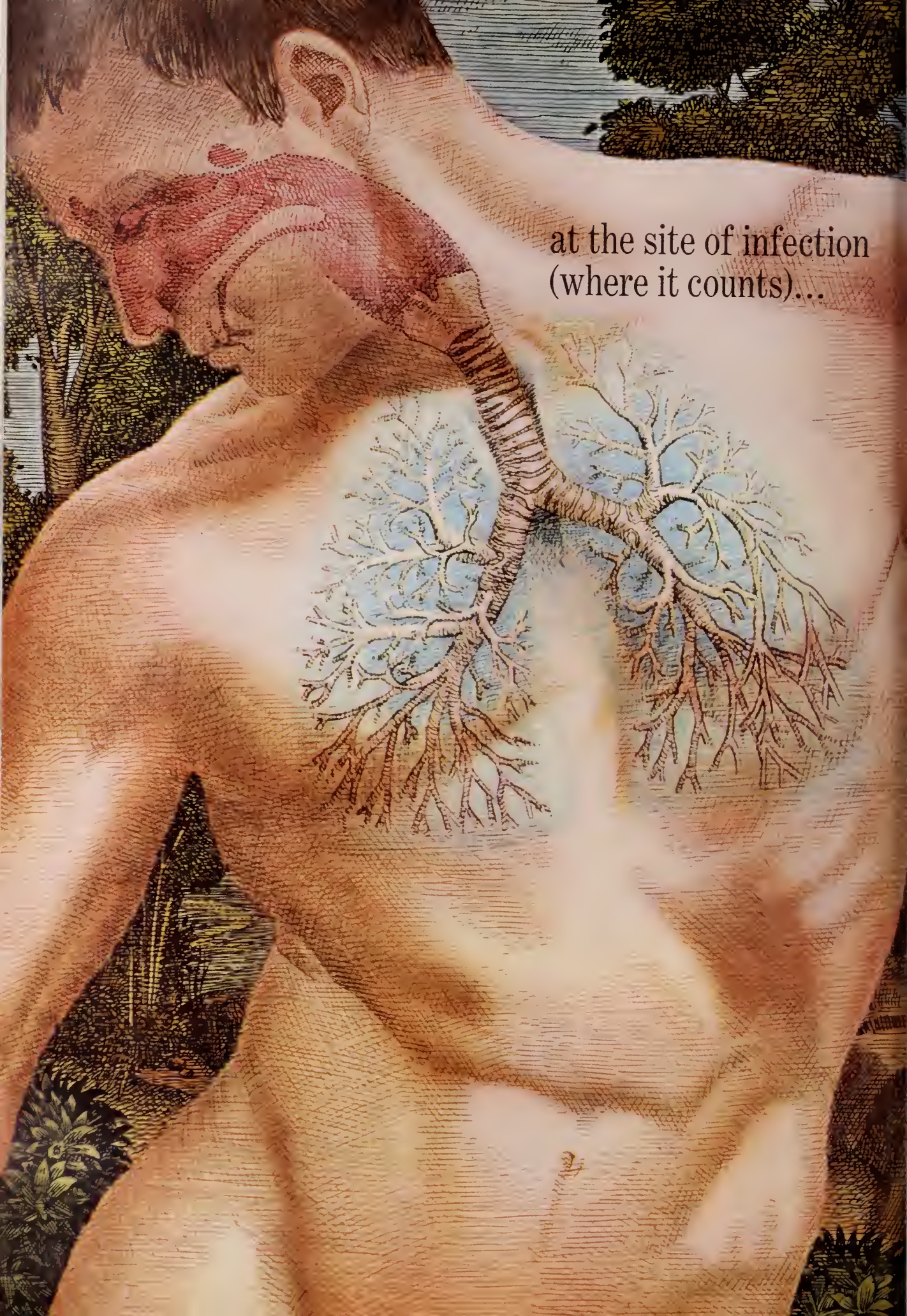
LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York



627-6-3613



at the site of infection  
(where it counts)...





## Ilosone® provides more antibacterial activity than any other oral erythromycin

**Acid stable, better absorbed... Ilosone produces faster, higher, more prolonged blood levels, even in the presence of food<sup>1-3</sup>**

Because it is the most active form of oral erythromycin, Ilosone can help assure consistently greater antibacterial activity at the site of infection. Ilosone produces peak antibacterial blood levels two to four times those of other erythromycin preparations.<sup>1,2</sup> Not only are these levels attained earlier, but they are maintained for much longer periods. Even the presence of food does not seem to affect the activity of Ilosone.<sup>1,3</sup>

In the treatment of patients with bacterial infections susceptible to erythromycin, Ilosone has compiled an excellent therapeutic record. Since it exerts its greatest activity against gram-positive organisms, it is particularly useful in common respiratory and soft-tissue bacterial infections. Ilosone kills—not merely inhibits—streptococci, pneumococci, and more strains of

staphylococci than any other macrolide antibiotic. This bactericidal action, coupled with the high antibacterial levels attained, makes Ilosone especially valuable in patients with low host resistance, such as infants, debilitated individuals, and diabetics.

Ilosone has shown no cross-resistance with penicillin and may be effective against organisms that have become resistant to that agent. Despite its high antibacterial activity, Ilosone has demonstrated a low incidence of side reactions. Blood dyscrasias, ototoxicity, and tooth staining have not been observed. Infrequent cases of drug idiosyncrasy, manifested by a cholestatic jaundice, have occurred, but there have been no known definite residual effects.

**Ilosone®**  
**Erythromycin Estolate**



*(See next page for prescribing information.)*



# Ilosone®/the most active oral form of erythromycin

**Description:** Ilosone is the most active form of oral erythromycin that has been developed. Because it is stable in acid, well absorbed, and excreted in lesser amounts in the bile, it provides faster, higher, and longer-lasting levels of antibacterial activity (ABA) in the serum, even when taken with food, than do comparable doses of erythromycin.

**Indications:** Ilosone is indicated in infections caused by microorganisms sensitive to its action (especially staphylococci, hemolytic streptococci, and pneumococci). The drug is therefore useful in a high proportion of bacterial diseases encountered in clinical practice and particularly in the treatment of bacterial infections of the upper and lower respiratory tract and soft tissues.

In the treatment of acute bacterial pharyngitis and tonsillitis, this antibiotic has promptly eradicated the bacteria (streptococci) and has produced a parallel prompt clinical improvement. There have been no group A beta-hemolytic streptococci resistant to this preparation. In beta-hemolytic streptococcus infections, treatment should be maintained for ten days to prevent the development of rheumatic fever or glomerulonephritis.

Erythromycin estolate has proved to be very effective in pneumococcus pneumonia and in acute bronchitis with pneumococci on culture. Bronchopneumonia and otitis media in children have responded well to its use.

The antibiotic has been used very successfully in staphylococcus infections. Good therapeutic results have been obtained in soft-tissue infections, abscesses, cellulitis, carbuncles, wound infections, and furunculosis.

In serious staphylococcus infections, erythromycin preparations should be used only in combination therapy with other antimicrobial agents. As is the case with any treatment regimen used in these severe conditions, surgical procedures should be performed when indicated, and large dosages of the antimicrobial agents should be employed. In this fashion, Ilosone has been effective in staphylococcus pneumonia, osteomyelitis, septicemia, empyema, and meningitis.

Multiple 500-mg. doses of the drug have been useful in gonorrhea and syphilis. Since penicillin is the drug of choice for the treatment of syphilis and gonorrhea, erythromycin estolate should be employed for these infections only in patients with a history of penicillin allergy. Also, other infections due to susceptible bacteria in patients known to be hypersensitive to penicillin or other antibiotics may be considered for treatment with Ilosone. **Contraindications:** Ilosone is contraindicated in patients with a known history of sensitivity to this drug and in those with pre-existing liver disease or dysfunction.

**Side-Effects:** Data obtained from seven years' use of propionyl erythromycin ester and erythromycin estolate (Ilosone) indicate that hepatic dysfunction with or without clinical jaundice may occur during or following courses of therapy with the drug.

Changes in liver function tests in such cases have been indicative of intrahepatic cholestasis. The symptoms appear to be the result of a form of sensitization. The initial symptoms have appeared in some cases after a few days of treatment but generally have followed one or two weeks of continuous therapy or several courses of the drug. Symptoms reappear promptly if the drug is readministered to sensitive patients, usually within forty-eight hours. Eosinophilia was noted in peripheral blood counts. The findings readily subsided without apparent residual effects when treatment was discontinued. Recovery was delayed in one reported instance. The physician indicated in this case that either drug-induced jaundice or viral hepatitis may have been responsible for the findings.

In one clinical study involving ninety-three patients treated with the antibiotic, three cases of jaundice were observed and an additional eleven cases developed some changes in liver function tests. Three of the patients had abnormal liver function tests a second time on readministration of the drug.

Even though it is assumed that not all cases of jaundice have been reported, it seems clear that the number is small compared with the amount of drug that has been used. Reported cases have included persons in whom there had been administered other drugs known to be associated at times with hepatic side-effects and cases in which the presence of viral hepatitis or other disease may have been responsible for the findings. In some of the cases, associated gastro-intestinal symptoms simulated the colic of biliary tract disease. In other instances, clinical symptoms and results of liver function tests resembled findings in extra-hepatic obstructive jaundice. It appears that the occurrence of jaundice after administration of Ilosone is infrequent, but further investigations are being made to estimate its incidence more accurately.

In those cases mentioned above in which jaundice appeared to

be definitely related to use of the drug, laboratory findings were characterized by increased direct-reacting bilirubin, elevated alkaline phosphatase levels, negative or weakly positive cephalofluorescence and thymol turbidity tests, elevated serum glutamic oxalacetic transaminase levels, peripheral eosinophilia, and normal cholecystograms.

Individual idiosyncrasy seems evident since jaundice has not been reported in other patients taking prolonged courses of the medication. Patients with chronic infection have been given 1 to 2 Gm. of the drug daily for periods of two to six months, and patients with rheumatic fever have taken prophylactic doses of 0.5 Gm. daily for two years without difficulty. In one group of 144 patients who received the drug daily for two years, no jaundice was noted. It was of interest that members of six of the patients' families, who were not taking the drug, had episodes of jaundice during the study period.

Transaminase and serum alkaline phosphatase levels were determined in a group of fifty-four adults and children who took 250 mg. of Ilosone daily for an average of sixteen months for rheumatic fever prophylaxis. The results were compared with those of a similar group of forty-four patients who received penicillin. There were no cases of jaundice in either group. Elevation of SGPT and serum alkaline phosphatase levels during the course of treatment was observed in one patient treated with Ilosone and in two patients treated with penicillin. Seven other patients in the group receiving Ilosone and four others in the penicillin group showed elevations in one of the tests at some time during administration of the drugs.

Very satisfactory therapeutic results, without toxicity, were reported in 102 pediatric patients who received short-term (ten day) courses of Ilosone in the treatment of streptococcus infections. Results of liver function tests in these patients were comparable to those in a similar control group who had received penicillin.

Gastro-intestinal disturbances not associated with hepatic effects are observed in a small proportion of individuals as a result of a local stimulating effect of the medication on the alimentary tract; however, the normal intestinal gram-negative bacterial flora is not appreciably altered by erythromycin drugs.

Although allergic manifestations are uncommon with the use of erythromycin, there have been occasional reports of urticarial skin eruptions, and, on rare occasions, anaphylaxis.

**Administration and Dosage:** Ilosone is administered orally.

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For adults and for children over fifty pounds, the usual dosage of Ilosone is 250 mg. every six hours.

For severe infections, these dosages may be doubled.

When larger doses are indicated, parenteral erythromycin therapy should be considered.

In the treatment of syphilis, the recommended total dosage is 20 to 30 Gm. given in divided doses for a period of ten to fifteen days. Close follow-up of the patient is necessary since erythromycin drugs have not had adequate evaluation in all stages of syphilis. Examinations of spinal fluid are recommended as part of the follow-up therapy.

For gonorrhea, 500 mg. four times a day for four days are recommended. In the treatment of gonorrhea, patients with a suspected lesion of syphilis should have a dark-field examination before receiving antibiotics, and monthly serologic tests should be made for a period of three months.

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**References:** 1. Griffith, R. S., and Black, H. R.: *Am. J. M. Sc.*, 247:69, 1964.  
2. Griffith, R. S., and Black, H. R.: *Antibiotics & Chemother.*, 12:398, 1962.  
3. Hirsch, H. A., Pryles, C. V., and Finland, M.: *Am. J. M. Sc.*, 239:198, 1960.

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